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EPIDEMIC INFLUENZA AND THE U. S. PUBLIC HEALTH SERVICE

Magnitude of Task of Relief—Cooperation of State Public Health Officers, the American Medical Association, the Volunteer Medical Service Corps, the Red Cross, the Medical and Nursing Professions and the Public—Preventive Measures—Important Research Undertaken

By RUPERT BLUE, Surgeon-General, United States Public Health Service, Washington, D. C.

IN sketching the activities carried on by the United States Public Health Service in connection with the recent epidemic of influenza, we go back to the summer, when unconfirmed reports reached this country that influenza was prevalent in Europe in pandemic form. On August 16 a circular was addressed to all the United States quarantine stations cautioning the medical officers to be on the alert in the inspection of vessels from European ports so as to detect any cases of the so-called "Spanish" influenza.

In this connection, it may be well to point out that maritime quarantine measures are directed principally to guard against the introduction into this country of exotic epidemic diseases, such as cholera, plague, yellow fever, and typhus fever. It would be manifestly unwarranted to enforce strict quarantine against diseases regularly quite prevalent in this country, such as typhoid fever, scarlet fever, measles, and the common respiratory diseases, including influenza. In accordance with these considerations and the fact that influenza is not a quarantinable disease, the quarantine officers were instructed, if such disease was discovered on in-coming vessels, not to release such vessels from quarantine until after the local health authorities had been notified and after steps had been taken to prevent the spread of the disease from such sick persons.

Soon after this, the disease made its appearance in Boston and vicinity and in a short time spread in virulent form throughout the state of Massachusetts. Foci of the disease were also reported from other parts of the country, especially along the Atlantic seaboard.

Fig. 1. Influenza hospital organized by the U. S. Public Health Service in Washington, in quarters furnished by the War Department.

In this situation it became apparent that the Public Health Service would be called upon to render assistance to local and state health authorities far beyond the allowances of its regular appropriation. It became imperative, therefore, to provide funds for emergency needs, especially since the epidemic threatened to disorganize the entire system of war production, munitions, mining, and ship-building, as well as the mobilization of troops. Accordingly, at the request of the Public Health Service, Congress adopted a joint resolution granting $1,000,000 to the bureau for combating "Spanish" influenza. The very prompt action of Congress was as encouraging as it was gratifying, and the funds thus provided enabled the Public Health Service to enroll additional doctors and nurses

and send them in response to calls from stricken communities.

In the further description of the activities of the United States Public Health Service in dealing with the epidemic it may be well to consider these under two phases:

1. The provision of immediate relief for the stricken communities.

Fig. 2. Nurses in the emergency influenza hospital.

2. The inauguration and proper organization of measures for the relief and control of the epidemic in those parts of the country where the disease had not yet appeared.

Although the relief measures loomed large in the early days of the epidemic, the organization of preventive and relief measures in the non-stricken areas received a large share of attention from the outset. In fact, the two phases of work were carried on side by side.

RELIEF MEASURES

Some idea of the magnitude of the task confronting the Public Health Service may be gained from the fact that the requests for help from the vicinity of Boston alone included one for five hundred doctors, a number far in excess of those the service had available for such duty. Moreover it was clear, and subsequent events so showed, that, with the spread of the epidemic, similar calls would quickly come from other communities.

In response, therefore, to the urgent request for medical and nursing relief, all available regular officers of the Public Health Service were detailed to the stricken communities. Added to these was a force of trained nurses, temporarily detached from trachoma and other public health activities carried on by the Public Health Service.

Inasmuch as a large part of the country's medical and nursing personnel had been enrolled with the military forces, a request was addressed to the Surgeons General of the Army and of the Navy for a detail of doctors and nurses to aid the civilian authorities in providing emergency care in stricken communities. Unfortunately, the demands of the military population were themselves so pressing, largely because of the widespread occurrence of influenza in the training camps, that very little help could be obtained from this quarter.

In this emergency the Public Health Service called upon the American Medical Association, the Volunteer Medical Service Corps, the Red Cross, the medical and nursing professions as a whole, and on the general public for personnel to help combat the epidemic. In response to the request for physicians available for duty in the Public Health Service, the American Medical Association and the Volunteer Medical Service Corps compiled lists of a large number of physicians classified by states. Appointments were offered by telegraph to these physicians by the Public Health Service, and within forty-eight hours groups of physicians were on the way to some of the stricken communities in New England. Soon afterward, similar medical units were sent to New Jersey, New York, Pennsylvania, Delaware, Mississippi, Montana, South Carolina, Virginia, West Virginia, Tennessee, and Arizona. In this connection, mention may be made of the fact that the Maryland Council of National Defense kindly placed at the disposal of the Public Health Service a fully equipped hospital train for use in its influenza work.

The problem of supplying nurses was much more difficult, for it was found almost impossible to discover nurses or trained attendants who were not already extremely busy on urgent medical work, mainly in training camps. A limited number of nurses and trained attendants were secured by the American Red Cross and mobilized for emergency service in the communities most severely affected. It was made clear from the out-

Fig. 3. Graduate dietitians in the influenza hospital.

set that the United States Public Health Service desired to aid and not to supplant state and local health authorities in their work. Accordingly, instructions were issued that all requests for medical, nursing and other emergency aid in dealing with the epidemic should come to the Public Health Service only through the state health officers. At the same time, it should be pointed out that the medical and nursing units organized by the Public Health Service with the aid of the Volunteer Medical Service and the American Red Cross were directed solely by officers of the Public Health Service.

MEASURES IN COMMUNITIES NOT YET STRICKEN

As already mentioned, hand in hand with the provision of immediate relief for the stricken communities, steps were taken to organize preventive and relief measures in other parts of the country.

In this phase of the work regular officers of the Public Health Service were detailed to practically every state in the Union.[1] Their instructions were to organize all available forces, to cooperate with state and local authorities in order to give the greatest possible attention to communities engaged in essential war activities (mines, munitions plants, shipyards, and the like), to assist in the organization of emergency hospital facilities, and to see that steps were taken to prevent the spread of the epidemic.

A telegram was sent to all state health officers urging that all public schools, churches, theaters, and other places of public assembly be closed on the appearance of cases of influenza.

Fig. 4. Main kitchen of the emergency hospital.

A request was made of the American Red Cross to undertake a survey of the available nursing facilities and to urge local chapters to organize groups of trained attendants to be ready to provide nursing care for influenza patients.

It was early felt that the main reliance in attempting to check the spread of the epidemic and to minimize the ravages of the disease lay in an aroused and educated public opinion. Accordingly, steps were taken to carry on a campaign of popular health education through the publication of leaflets and posters and the printing of authoritative health articles in newspapers. One circular prepared by the Public Health Service, giving the known facts regarding the nature of influenza

Fig. 5. Main dining room of emergency hospital.

and the precautions to be observed in dealing with the disease, was printed in a number of editions eventually totalling six million copies. These were supplied to state and local health officers, Red Cross chapters, and other organizations for wide distribution. Posters were also sent to all of the postoffices and railroad stations throughout the country. A large life insurance company printed and distributed over a million copies of a leaflet of advice prepared by the Public Health Service.

Ready-to-print plates of a two-column popular article on influenza were sent to ten thousand newspapers throughout the country. In addition to this, a daily bulletin was given out to the large news-gathering associations giving a summary of the situation from day to day, accompanied with brief comment on new features regarding preventive measures which seemed indicated.

While this summarizes the bureau's activities directed to relieving and controlling the epidemic, the fact was not lost sight of that the epidemic offered a vast and important field of research. With deaths from influenza in the United States totalling hundreds of thousands, it was clear that no effort should be spared to gain mastery of this disease. Before this could be done, however, a large number of problems had to be solved—problems relating to the nature of the causative agent, the mode of spread of the disease, the reason for pandemic outbreaks, the prevalence of the disease in non-pandemic periods, the occurrence of carriers, the existence of immunity, the relation of other pathogenic micro-organisms to the course of the disease, the use of face masks as a means of prevention, and the like.

[1] In a number of states the secretary of the state board of health was appointed an officer in the Public Health Service, to act as the bureau's representative.

In attempting to contribute something toward a solution of these problems, the Public Health Service early in the course of the epidemic addressed a request to Maj. Richard M. Pearce, chairman of division of medicine of the National Research Council, to initiate extensive laboratory studies in order to determine the exact nature of the micro-organism causing "Spanish" influenza.

"It is important to know," said this letter, "whether we are now dealing with the Pfeiffer bacillus, or with some other germ. Moreover, we should know whether the outbreak of so-called 'Spanish' influenza in the various parts of the country, like New Orleans, Mobile, Boston, and New York are all due to the same kind of germ."

The hope was expressed that this request would soon furnish cultures of the germs from different places, so that careful comparative studies could be made at the Hygienic Laboratory.

Very often considerable light is shed on obscure problems of epidemiology by a careful survey of the course of an epidemic throughout the country. In order to provide the basic facts without which such survey cannot be undertaken, the Public Health Service has made an attempt to collect accurate data on the occurrence of the epidemic throughout the United States. In conformity with arrangements made with state and local authori-

Fig. 2. Visiting doctor and nurse in influenza car, one of a number furnished by public-spirited citizens and organized by Lieut. H. S. Fisk into a corps which enabled the limited number of doctors and nurses to cope with the situation.

ties, detailed telegraphic reports were regularly received by night letter from all parts of the country. These are now being tabulated and prepared for analysis. Meanwhile, summarized abstracts are being published in Public Health Reports for the information and guidance of health officers and others desiring to keep informed as to the course of the epidemic. More intensive epidemiologic studies are now being carried on in the field.

WHAT WAS DONE IN WASHINGTON, D. C.

In the District of Columbia conditions became so serious that the district commissioners, through their chairman, Hon. Louis Brownlow, requested the United States Public Health Service to take charge of the situation, and Assistant Surgeon H. H. Mustard was detailed to this duty. Thanks largely to the effective cooperation of Commissioner Brownlow and District Health Officer Fowler, the serious conditions in the capital were eventually effectively dealt with.

One of the first steps taken to prevent the spread of the epidemic was the closing of all schools, theaters and other places of public assembly. Another device, with the view of lessening overcrowding in street cars, was a rearrangement of the office hours of all government offices—in other words, the introduction of the so-called "stagger system," whereby the peak load was distributed over a longer period.

Owing to the severe overcrowding of the city's population, the limited number of practicing physicians available for the sick, and the difficulty of caring for patients living in crowded furnished rooms, steps were at once taken to provide an emergency hospital in quarters kindly placed at the disposal of the Public Health Service by the War Department. The building was turned over to the Service on a Sunday, and, thanks to the cooperation of all concerned, the first patients were received the next Tuesday.

In this connection, it is a pleasure to record the splendid assistance rendered by many public-spirited citizens. Largely through the energy and ability of Lieut. H. S. Fisk, a corps of automobiles was organized to take doctors and nurses on their errands of mercy. This enabled a limited number of doctors and nurses to cope successfully with an otherwise unsurmountable situation.

Fig. 3. Red Cross workers making masks for the use of doctors and nurses attending influenza patients.

While there was no positive information concerning the prevention of the infection by means of gauze masks, the wearing of such masks by nurses and doctors and others attending such patients was encouraged. These masks were kindly provided by the local Red Cross Chapters.

Another difficult problem, that of providing nourishing food for the sick, was met by the or-

ganization of relief kitchens. In Washington a relief kitchen, under the supervision of Mrs. W. G. McAdoo, was opened at the old Emergency Hospital. Upon application, hot broth and gruel was delivered free of charge by automobile to any address in the city. This undoubtedly has relieved a great deal of the trouble.

A RESERVE CORPS TO DEAL WITH FUTURE EPIDEMICS

This epidemic has demonstrated, as never before, the imperative need of a permanent organization within the Public Health Service available for emergency work. To a large extent, such an organization can exist in skeleton form, but if widespread epidemic outbreaks of disease or other great public health emergencies are to be dealt with successfully, steps must be taken to avoid having to create a new organization with each emergency. This difficulty has been met by the passage of a joint resolution, pending in Congress since June, 1917, which provides for the establishment of a reserve in the Public Health Service. The resolution became a law with the President's approval on October 27, and the organization of the reserve, which is now under way, will undoubtedly have a profound influence in safeguarding the health of the nation.

OUT-DOOR TREATMENT OF SPANISH INFLUENZA

Loss of Life During Recent Epidemic Greater Than That Caused by War—Open-Air Treatment Tried with Excellent Results—Statistics Prove Superiority of Open-Air Cure—Suggestions for Cubicle Construction to Handle Future Epidemics

By W. A. BROOKS, A.M., M.D., Acting Chief Surgeon, State of Massachusetts

PROBABLY the real history of the epidemic of the so-called "Spanish influenza" will never be known. Perhaps it is just as well that all of its horrors should not appear in print. It is necessary, however, that some of them should be known in order that proper precautions may be taken to guard against its probable recurrence next fall. When it is considered that this epidemic has already cost in the neighborhood of

Fig. 1. Street at Camp Wm. Brooks, Corey Hill, Mass.

one hundred thousand lives—more lives than we have lost in the war with Germany—the magnitude of the catastrophe is perfectly apparent.

Open-air treatment for diseases of the respiratory tract has been known and practiced for many years. It really is nothing new; yet its application to cases of influenza was, in the beginning, largely the result of experience. It was interesting to see how the problem worked out. The

Fig. 2. Hospital at Gloucester, Mass.

first tent hospital for the treatment of influenza cases was established by the recruiting service of the United States Shipping Board, with the aid of the authorities of the state of Massachusetts.

Between 5,000 and 6,000 men in training were crowded together in four or five ships stationed at East Boston. Out of this number about 1,200 cases of influenza and pneumonia developed. Three hundred and fifty-one of the worst cases

out of the 1,200 were treated at the tent hospital, and of this number thirty-six patients died. Early in the history of the camp it was learned that the worst cases of pneumonia came from quarters on the ships where the circulation of air was the poorest.

This was the first hint towards the proper treatment. Later on, it became known, through the cultures from the throat and nose, that the epidemic was due, not to the influenza bacillus alone, but also to at least two, possibly three, types of the pneumococcus. Type three of the pneumococcus was apparently the most dangerous, and one for which there is as yet no known serum.

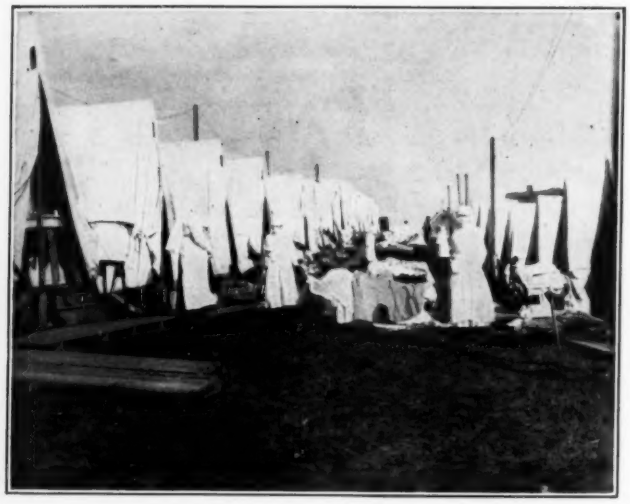


Fig. 3. Street scene at Lawrence, Mass.

The reports from the autopsies at the naval hospital showed the presence of abscesses in the lungs, and, together with these abscesses, were areas of gray and red hepatization. The hearts in many cases were absolutely normal. Clinically, it had been noticed at the camp hospital that, as cases became cyanotic, the use of ordinary heart stimulants, such as digitalis and strychnine, had absolutely no effect; and, when it became known that the deaths were due, not so much to heart failure as to the fact that the lung area was markedly diminished, it became apparent why the heart stimulants had no effect. The patients were simply drowned.

These facts being known, the treatment demanded was that the patient should be given as much air as possible. Consequently, on pleasant days the patients were moved out into the air and sun. The resultant improvement was most marked and startling. Practically without exception, after a day in the sunlight, temperatures were lower at night than they had been in the morning. The attending physicians at the camp took courage, and, when cases were brought in early enough in the disease, recoveries became more and more frequent. A great number of patients with single and double pneumonia got well, and it was interesting to see them returning to the ships sunburnt after such a serious illness.

An interesting comparison of some of the tent camps with indoor hospitals can be made. For example, in a small hospital near Boston, the number of patients treated during the epidemic was 87. Of this number, 29 died. At an out-door hospital at Barre, Mass., 114 patients were treated and only four of them died. A general hospital in one of the neighboring cities to Boston had about 76 patients. Out of this number, 20 died within three days, and 17 nurses came down with the disease. As I have stated above, out of 351 patients at the first tent hospital, only 36 died. These facts speak for themselves.

Without the figures being complete, it is safe to assume that, where cases of influenza and pneumonia have been treated in wards of general hospitals, the rate of mortality has run from 30 per cent to 50 per cent. In the out-of-door camps the rate of mortality has run from 5 per cent to 18 per cent. This in itself should be a convincing argument in favor of out-of-door treatment of this disease.

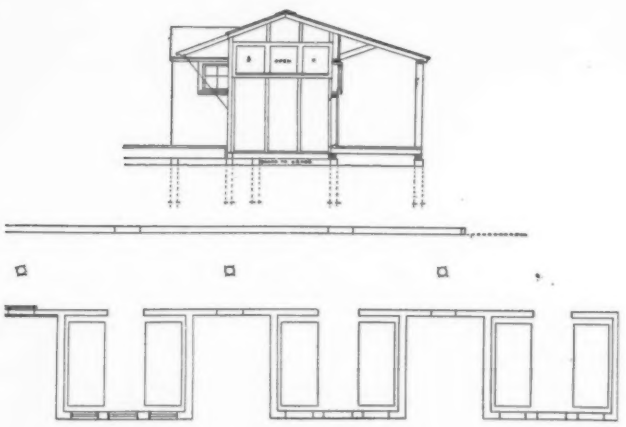


Fig. 4. First floor plan and elevation of cubicle construction suggested for out-door treatment of respiratory diseases.

As an interesting contribution it can be stated that 3,000 boys training for the navy were put in the tents at Framingham, Mass., and at the end of two weeks, as far as I have been able to learn, in only 2 per cent did influenza develop.

It has been extremely difficult, however, to drive these facts home and to convince the medical profession that a patient is much better off *out of doors* than in *any* room with all the windows open. In such an epidemic as has recently swept this country it has been proven without

doubt that it is absolutely dangerous to treat ten or twenty cases in one room. The drop-sheet between the beds unquestionably make it less dangerous, but so many of the nurses in attendance are stricken with the disease that the efficiency of the hospital staff is greatly diminished.

Experience with this epidemic should revolutionize the construction of hospitals, and it is yet to be proved whether it is not inadvisable to treat twenty or more cases of any disease in a single room.

The great disadvantage of a tent hospital is that the nurses in attendance are very much exposed in bad weather. The patients in the tents can get along very well, but the nurses in attendance have no protection. Consequently, looking to the protection of the nurses as well as the benefit of the patient, the idea suggests itself of the building of cubicles facing the south, with room enough for two beds, and all of the cubicles connected on the north side with a passageway which might be heated in cold weather. On the north side of the passageway can be located the diet kitchen, hopper-room, and toilets. The space between the cubicles should be at least 9 feet. The shutters of the cubicles should all open inward, and the walls should not extend clear to the roof.

A second criticism of the tent hospital is that there is always a dead-air space at the top of the tent. Hence, it would seem almost advisable to have the roof of the cubicle arranged in such a manner that it could be lifted.

The construction of these cubicles is much less expensive than the ordinary hospital construction, and it affords an opportunity of getting all the air and sunshine available. In addition, the front of each cubicle should be constructed in such a way that it could be opened out and in sunny weather the patient could be rolled out into the open so as to get the sun all day long. Every town of any size should have one of these cheaply constructed cubicle hospitals in order that on the outbreak of any epidemic the first few patients could be immediately taken care of. If many cases develop, the original units could be supplanted by others or by tents.

Personally, I am absolutely convinced that this would not only be a wise procedure, but an absolutely essential one if we are to be prepared for what is practically sure to happen. If it is not an epidemic of influenza, it will be an epidemic of some other contagious disease, and certainly this country has paid the price for its experience with this epidemic.

It has been roughly estimated that, in most communities, the value of a human life is about $5,000. On this basis, there has been a loss to this country of practically $500,000,000 during this epidemic, an estimate which should bring home to us the tremendous economic loss in an epidemic such as the one just experienced.

A HOSPITAL IN A FRENCH CHATEAU

One of the Hospitals on the Other Side Where Gas Cases Are Studied and Cared For

This beautiful chateau in Bellevue, France, was formerly the home of Isadora Duncan, the dancer. It is now (or perhaps we may write "was") the American Hospital for the Study and Cure of Gas Cases. If the need for its use for this purpose has not yet passed, it will, of course, soon be at an end with the cure of the cases now cared for, when "gas cases" will become the subject of a chapter on the gruesome curiosities of medical history.

AN ENGLISH HOSPITAL FOR AMERICANS

Good Results in the Care of Pneumonia Achieved in Unpretentious Architectural Surroundings

It would be hard to imagine a more complete contrast to the chateau pictured in the opposite column than this pneumonia ward of the American Red Cross Hospital at Mossley Hill, Liverpool, England, which looks more like a big drill hall than a hospital building. Nevertheless, the London department of information of the American Red Cross from which this picture comes, reports that the army doctors are enthusiastic about it, and call it the best thing of its kind in England.

A COOPERATIVE ECONOMY CAMPAIGN IN ALL DEPARTMENTS OF THE HOSPITAL

Savings in Chemicals and Drugs, Nursing and Housekeeping Supplies, Labor and Fuel—The Human Element the Greatest Factor in the Economy of an Institution

By ASA S. BACON, Superintendent, Presbyterian Hospital, Chicago

THE Presbyterian Hospital has been fortunate in securing splendid cooperation throughout all departments in the conservation program on which our government has asked us to act. We have always believed in avoiding unnecessary extravagance, but the war, by placing economy on the high plane of patriotic duty, has taught us many new ways to save and has intensified the interest felt in thrift. Everyone feels pride in having helped to eliminate waste without lowering the standard of service given, and this applies even to departments which in most cases feel no concern for expense and ordinarily resent being asked to consider this subject.

Fig. 1. Drug department, where the nurses receive four weeks' training.

THE LABORATORY

It has been found possible to institute some very important economies without in the least hampering the work or injuring its quality. The extent of this saving may be indicated by the statement that in December, 1917, the cost of drugs used in one service alone was $63, whereas in September, 1918, the cost of drugs for all services together was $25.

This has been accomplished in part by a system of careful checking. The drug room checks the supplies requisitioned by the laboratory, and the latter checks the chemicals given out to the interns.

It has been found that to give out chemicals in dry form encourages waste. By giving out glacial acetic acid in solution, for instance, our laboratory has cut down the expenditure of one service for this chemical by three-fourths.

Another saving is effected by care in making tests. For instance, the gold chloride test is successful only if the utensils and material are clean and sterile; also, it should be made up with triple distilled water to get best results.

The polariscope test for sugar in the urine is much less expensive than chemical tests and is sufficiently accurate for clinical purposes. The initial cost of the polariscope is only about $55, and its use has been a decided economy.

THE PHARMACY

A great many of the economies practiced in our pharmacy were explained in a former paper.[1]

One of the advantages which the Presbyterian Hospital has always possessed from the point of view of economy in the pharmacy is the fact that the members of the medical staff prefer to confine their prescriptions, as far as possible, to official substances. There are great advantages in the use of pharmacopeial drugs. Not only are they required by law to meet a fixed standard, being staple substances, but they are also more economical to use than the non-pharmacopeial drugs.

We find it a saving to manufacture more of our drug supplies than we might if our pupil nurses did not spend a month in the pharmacy. There is an immense saving in making syrups, essences, tinctures and elixirs. In the matter of manufacturing, no rule of economy can be laid down that will apply to all hospitals.

Fig. 2. Sorting room in the laundry. Damaged or badly worn linen is returned to the sewing room.

NURSING DEPARTMENT

In the nursing department our main economies are naturally in the use of gauze and cotton.

[1] Bacon, Asa S., and Gray, William: Economy in the Hospital Pharmacy, April, 1918, X, 291.

We have replaced absorbent cotton to a large extent with non-absorbent; in fact, we use absorbent cotton only for eye dressings. We make applicators out of scrap cotton, and the plugs for specimen tubes out of waste cotton. Washed and resterilized gauze is, of course, used for dressings.

In many respects we have found economy no hardship. For instance, we find the bed-pads made out of old linen and padded with waste gauze preferable to those made of absorbent cotton. Perineal pads are made entirely out of small scraps of washed gauze.

HOUSEKEEPING DEPARTMENT

I have already told how we conserve food by the cooperation of patients in ordering from menus.[2]

Servings are, of course, watched to see that amounts of food in excess of what will be eaten are not given out.

The war, moreover, has given us a background from which to appeal to our domestic help for cooperation in economy, and they have responded as they would not otherwise. Before the war they would have felt injured, for instance, if they were not allowed to drink milk freely. Now it is possible to make them understand that milk is too much needed as a food to be used for allaying thirst by people who do not need it. Accordingly, we have discontinued the serving of milk at the noon-day meal and do not permit it to be poured at breakfast and supper until the meal has begun and there has been a chance to satisfy thirst with water.

Fig. 3. Surgical supply department, where all waste gauze and cotton is made into dressings, bed-pads, etc.

In the sewing room the opportunities for saving are endless. We cut down full-sized sheets, spreads and blankets, when worn at the ends, for use in the children's wards. The bath towels used in the private pavilion are cut off and hemmed for use in the wards, later transferred to the help's quarters, and finally cut up into wash-cloths.

We have eliminated skirt gores in gowns for the sake of economizing material. The gores from the sleeves and back are used to make belts for nurses' gowns. Other scraps of new material are used for neckbands and drawstrings. We now use very little tape.

We used to employ sixty-inch rubber sheeting. Since the price of rubber has gone up we have made a considerable saving by using forty-inch sheeting, piecing on old rubber at the sides to turn under the mattress. The old scraps are used for the scrub-maids' knee pillows.

Fig. 4. A corner of the sewing room, where all waste material is reclaimed.

A sudden demand for operating room masks was the occasion for the utilization of strips of new scrim left over from window curtains. Masks of this scrim proved cool and comfortable and made a "hit" with the surgeons and nurses.

A very simple record is kept of the cost of each article made in the sewing room, so that we know just what the saving is on each.

THE LAUNDRY

In the laundry the chief economy effected has been in the reduction of help through the use of faster machinery. We have put in a fast mangle, capable of turning out seventy feet of laundry, against thirty-five or forty-five formerly. We get as much work from one girl tending two fast presses tandem as used to be turned out by three body ironers. The use of pins has been discontinued, and paper bands are used instead.

THE POWER PLANT

We save in electric current and wear and tear of machinery by charging our signal system during the twelve night hours. We economize fuel by heating water with exhaust steam. Labor is saved by the use of the automatic stoker. Among

[2]Bacon, Asa S.: Cooperation of Physicians, Nurses, and Patients Enlisted Successfully in the Presbyterian Hospital, Chicago, July, 1917, IX, 21.

the materials saved in this department are oil and cotton. We collect the oil which drips on the floor around the machinery, filter it and use it again. We use scraps of washed gauze instead of waste in the engine room.

MISCELLANEOUS ECONOMIES

One of the most important miscellaneous economies is in the use of soap. When thoroughly seasoned, soap will not waste as it does when fresh. By cutting one pound bars in halves and thoroughly drying them on racks in the storeroom for a year before use, the Presbyterian Hospital has been able to cut down its consumption of soap to a third of that of another institution which handles no more people.

We save in rubber gloves, in the first place, by buying a good quality, medium or heavy weight, standard sizes. Their life is prolonged as far as possible by patching. When no longer useful as gloves they are cut up, the wrists making rubber bands and the fingers being used as finger cots. The fragments that are past use are sold as old rubber. It is worth while, we find, to repair our own rubber goods, such as gloves and hot water bottles, etc.

The life of metal pails has been trebled by screwing to the bottom of each a wooden plug, which touches the floor and does not permit the metal bottom to sag. The top of the screw is soldered over to prevent leakage. It also makes the pail less noisy.

I had a special forceps made with a wide lip to squeeze the alcohol out of sponges. This forceps has entirely eliminated the waste of alcohol from squeezing the sponges with the fingers or with the ordinary forceps.

Cuttings from the folders in which histories are kept are cut up into cards, which are used for visiting passes, etc. Scraps of tissue paper, such as come around oranges and lemons, are saved and used for toilet paper for the help.

In fact, our aim is not to destroy, but to save and use every bit of potentially useful material.

THE HUMAN ELEMENT

After all, the largest factor in institutional economy is the human element. It is impossible to practice economy successfully with a discontented, disloyal force, or with a constantly changing force. For many reasons, an old employee who gives satisfaction is worth much more than an equally competent outsider.

The Presbyterian Hospital follows a policy which insures a contented, loyal body of permanent employees, who know our work and our ways. We pay what the employee is worth, and, if an individual has the capacity and ambition to advance, we give him or her the opportunity. The result is, our employees understand that the welfare of the Presbyterian Hospital is their own welfare, and they work for us not only with their hands, but with their heads and their hearts.

RESULTS

Ninety-six percent of our employees have stood by the hospital during the war and are still with us. They are all in fine physical condition and reasonably satisfied.

The amount of alcohol used has been reduced 50 percent. Chemicals used in the laboratory have been reduced 75 percent.

Shelf paper and paper used in dresser and linen drawers have been entirely eliminated.

Butterine is used throughout the house except for private room and special feeding patients.

Flannel bandages have been discarded entirely.

Gauze bandage rolls have been reduced 75 percent.

The amount of gauze has been reduced 25 percent.

Lemons and oranges have been reduced 80 percent.

Sugar has been reduced 50 percent.

All meats and fats have been reduced 25 percent.

Similar reductions have been made in all departments where economy does not interfere with the service.

Fig. 5. This group of floor maids shows a part of the two hundred and fifty employees who have faithfully cooperated with the administration during the war. Miss Lucy J. Clark, matron, is standing at the left. The fourth standing on the left is Miss Ann Moore, who has given twenty-three years of faithful service to the hospital.

A LAUNDRY SYSTEM WHICH HAS PROVED SUCCESSFUL

Clean and Soiled Clothes Separated Through Entire Laundry Process—Triplicate Forms and Careful Checking Prevent Loss of Articles—Strict Economy Permits Use of Best Quality Supplies—Weekly Schedule of Patients' and Employees' Work

By MRS. LINA STRYKER FISH, General Housekeeper, Municipal Tuberculosis Sanitarium, Chicago

IT is rather the exception to the rule that the utilities of the hospitals or institutions are adequate for the census. In the case of this sanitarium, the exception is the rule as far as the laundry is concerned. The board and superintendent, with great forethought, have enlarged the laundry with the growth of the sanitarium, and the result is that we have a laundry fully equipped for our needs.

I thought it might be of interest to the readers of THE MODERN HOSPITAL to know something of the routine work here.

As in all well-organized places of this kind, it is an invariable practice here not to have soiled clothes cross the clean. One entrance is used entirely for soiled clothing, and the succeeding steps of the process take the clothes through the different stages until they are ready for delivery from the exit of the clean-bundle sorting room.

I will first tell of the collection of soiled clothing. Here, as in commercial laundries, the making out of the printed list is very important. My experience has been like that of everyone else in this line, that there are few persons who can make out a list properly. Our system, while it may seem complicated at first, proves after a little practice very efficient and easy. The persons using it grow to have such confidence in it that they adhere very closely to the forms.

The forms are printed on sheets of three colors, yellow, pink and blue, and are put up in blocks. They are used, of course, with carbons. The date and unit are designated at the top. Then comes the list of articles, alphabetically arranged and including every possible article, even to dust cloths. After the articles have been properly listed, the name and position of the sender are signed at the bottom. This assists in locating any articles lost. The yellow slip is retained by the sender, and the blue and pink slips are sent with bundle. The bundle system is used exclusively, the same as in commercial laundries, and it makes no difference whether the night gown and underwear of a bed patient or the flat work for a ward or cottage is being sent, the same system prevails.

When this soiled linen is received in the soiled-linen receiving room, if it is personal clothes, it is sent to the marking machine room. The flat work, including bedding, linen, blankets, etc., is sent to the sorting room, for these articles have been marked before putting them into circulation. The clothes are opened, each bundle separately, and checked with the pink and blue slips. If there are any discrepancies between the bundle and the lists, the checker makes a notation beside the number marked by the sender; thus, if only three shirt waists are received and the blue slip says four, the checker marks both slips "3." After the bundles are checked, each article is looked over to see if it is properly marked, and, if not, the marking is done. As there is a special place on each garment for marking, this part of the work is comparatively easy. When this is done, the pink slip is sent to the clean-clothes sorting room, and the blue to the housekeeper's office. The pink slip is fastened on the box with a clip. An adequate number of boxes is supplied, which insures sorting for the clothing of each individual. The pink slip goes with the clothes until they are finished and made into clean bundles for distribution and is then returned with the bundle to the original sender.

The yellow slip retained by the sender must check with the pink and also with the blue retained in the office. In case of loss of articles, the complainant must go to the office with the yellow and the pink slips, and, as the office has the blue slip, it is very easy to give the final checking and place the blame where it belongs. The blue slip sent to the office also assists in the scheme for correctly crediting the laundry with the value of work done by it. Every article with its commercial estimate is entered on a ledger, so that we are able to say exactly what is its real value in dollars and cents. Thus you see the usefulness of making out laundry lists correctly and checking up with them as an aid in obtaining a grand total.

We also keep an accurate accounting of all our supplies, such as soap chips, Wyandotte soda, starch, and, in fact, to the ounce of bluing, so that at the end of the month we can tell exactly what it costs to accomplish the work as far as supplies are concerned, as well as the value of the work and supplies.

Another thing that is well to consider is the fact that, as far as is possible, unless they are

prohibitive in price and impossible to obtain, it is best to adhere to well-tried supplies. If substitutes are used, they should be worked out well before they are tried with the regular work. Of course, it is everyone's duty to obtain the simplest

M.T.S. 3 9-10-15M 33468 ORIGINAL

CITY OF CHICAGO

Municipal Tuberculosis Sanitarium

Date_____191__

LAUNDRY:

The following goods are herewith enclosed by

_____ Section Designation_____

No.	√	ARTICLE	No.	√	ARTICLE	No.	√	ARTICLE
		Aprons—Colored			Diapers			Skirts—Dress
		" —White			Dresses			" —Flannel
		Bath Robes			Drawers			"
		Bibs			Gowns—Laboratory			Sleepers
		Blankets—Cotton			" —Night			Socks
		" —Wool			" —Operating			Spreads
		Bloomers			Gulmpes			Sweaters
		Boys' Jackets			Handkerchiefs			Table—Cloths
		" Trousers			Hose			" —Covers
		" Waists			Khaki Covers			" —Tops
		Brassiers			Kimonos			Ties
		Bureau Covers			Mattress Pads			Towels—Bath
		Caps			" Covers			" —Dish
		Chemises			Middy Blouses			" —Glass
		Children's Dresses			Napkins			" —Hand
		Cloths—Wash			Pajama Coats			" —Individual
		" —Dust			" Pants			" —Roller
		Clothes Bags			Pan Covers			Undershirts
		Coats			Pants			Undervests
		Collars			Pillow Slips			Union Suits
		Combinations			Rompers			Vests
		Corset Covers			Scarfs			Waist Bands
		Cuffs			Sheets			Waists
		Curtains—Long			Shirts			Wrappers
		" —Short			Shirtwaists			

Date_____ Signed_____

Fig. 1. Laundry list used by Chicago Municipal Tuberculosis Sanitarium. Actual size, 5½ by 8⅝ inches.

and the most inexpensive things that will accomplish the purpose.

So far, by the strictest economy in their use, we have been able to continue with many articles we had used before the changes in price brought on by the war. To show that our arguments are sound and can be substantiated, I will say that the biggest part of our flat work for beds, etc., has been in use for nearly four years. Results such as this can be obtained only by properly listed work and care in ordering supplies. It is but practical economy to keep the laundry to its highest grade, from the standpoint of regular service for everything going through it, and also for personal and bodily comfort, to say nothing of the appearance given in the working and using of articles laundered. Everyone wants to cooperate with the system, because everyone feels its value personally.

We have a very comprehensive method of collecting and delivering soiled and clean laundry. The lists for collection and delivery are made out in schedule form and placed in every unit of the sanitarium. Collections and deliveries are made by a truck, with a trained person to do the work. Each day's work is done at the regulation time on the schedule, and all clothing must be ready at this time to be picked up. One of our units is one-fifth of a mile from the other, with all the outlying cottages and buildings, so it is evident that a time schedule must be adhered to.

Monday at 8 a. m. all the wearing apparel of each employee is gathered, and this, with the flat work for every employee, is cleared up with the washing, while the patients' ironing, which was collected on Saturday's pick-up is finished up. On Tuesday the flat work is mangled and the ironing for the employees starts, so that work for employees and patients never goes through at the same time, either in the wash, or in the ironing. Wednesday is shirt and collar day, with the finishing of the employees' clothing, which is delivered the same day, leaving the last of the week, Friday and Saturday, for finishing up the work of the patients. Table linen, which we have for employees only, is sent every other day, and towels and kitchen articles, as well as specials for

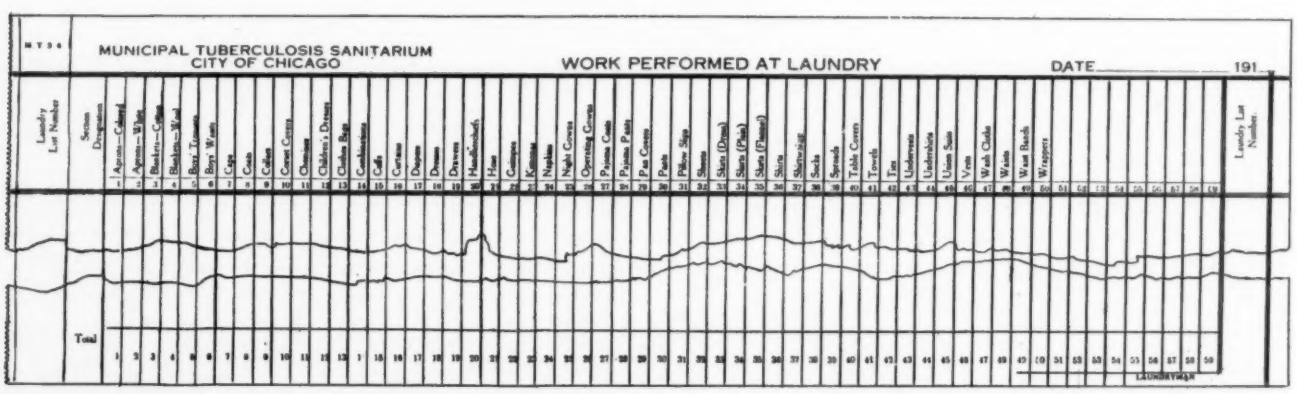


Fig. 2. Monthly summary of work done by laundry of Chicago Municipal Tuberculosis Sanitarium. Actual size, 11 by 16¾ inches.

the infirmary and the babies, are sent every day.

We are doing work for between eleven and twelve hundred people with a roster of five men and nineteen women, including the man on the truck who collects and distributes. They are divided into classified groups or crews for each particular kind of work, hand-ironing ironers, body ironers, shirt and collar workers, manglers, etc. Employees capable of being taught the work on the different machines are given this training, so that we always have an understudy. Great care should be used in the organization of the work and in the selection of persons checking in, to see that they thoroughly understand the importance of that particular line. In no department of the hospital or institution is there more need for organization than right here. It is very essential to look after practically small matters, for they make the final success. The placing of the right people for doing special lines of work, the

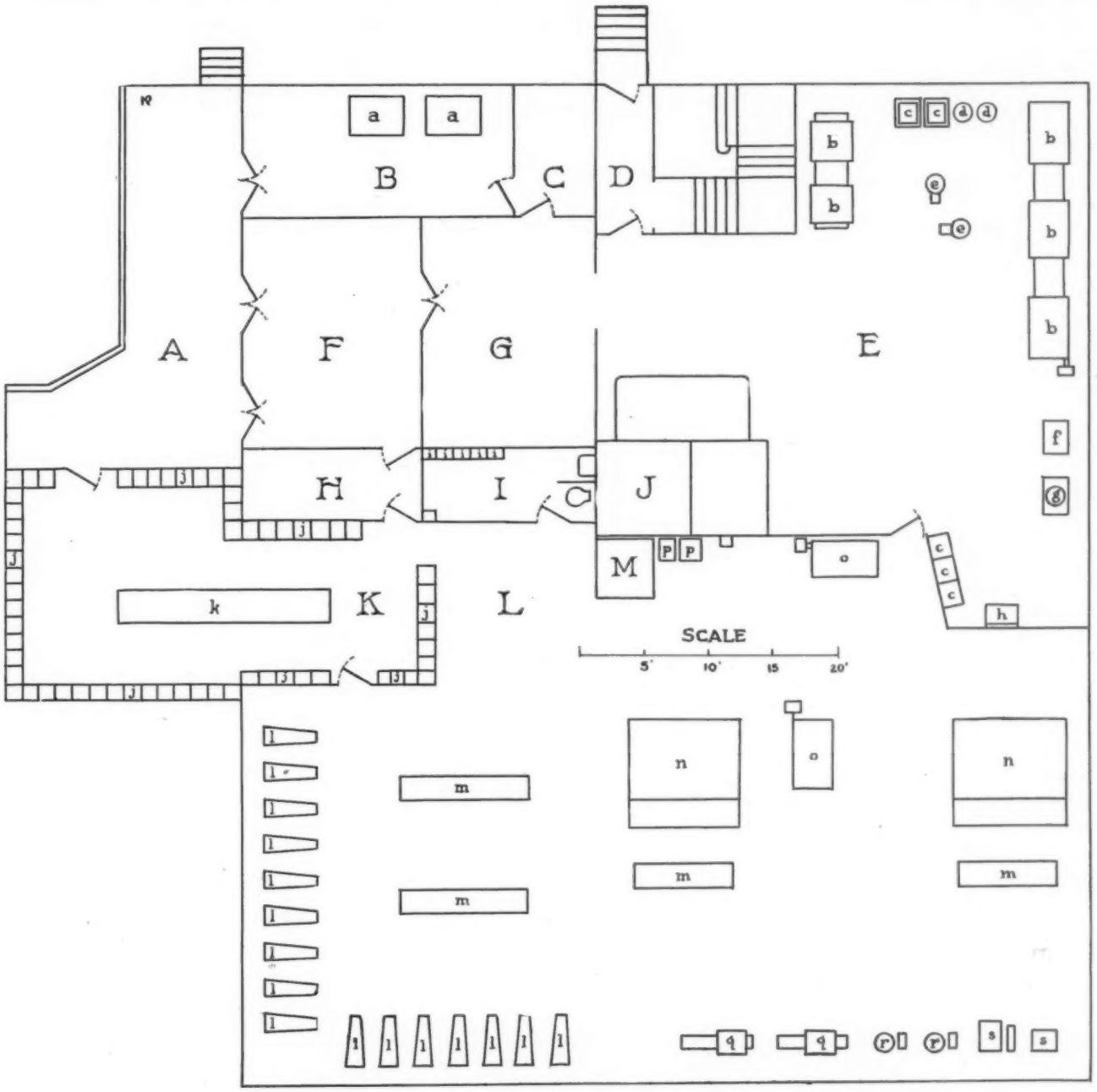


Fig. 3. Plan of the laundry of the Chicago Municipal Tuberculosis Sanitarium.

A. Platform
B. Soap room
C. Supply room
D. Hall
E. Wash room
F. Receiving room
G. Sorting room
H. Office
I. Locker room
J. Dry conveyor
K. Clean sorting and delivery
L. Ironing room
M. Dry room
a. Soap tanks
b. Washers
c. Tubs
d. Tanks
e. Extractors
f. Shirt starchers
g. Starch boiler
h. Sprinkler
i. Men's lockers
j. Sorting boxes
k. Sorting table
l. Ironing tables
m. Tables
n. Mangles
o. Tumbler
p. Presses
q. Shirt ironers
r. Collar ironers
s. Body ironers

making of the bluing, the careful weighing out of the soap chips and the Wyandotte soda for soap, and the boiling of the starch all make a successful week's work.

If the foundation is well laid, you have results of which you can be proud. What gives greater comfort than clean, sweet-smelling clothes? Good laundering is a service that is fully appreciated perhaps only when something calls attention to the want of it, and it is but practical economy to keep this service up to the highest standard of efficiency.

VENEREAL DISEASE CLINICS

The War Department Calls on the Hospitals of the Country to Establish and Maintain Venereal Clinics as a Necessary War Measure—Essential Requirements for Maintenance of Efficient Clinics

By MICHAEL M. DAVIS, JR., Director of the Boston Dispensary

1. Why combat venereal diseases?—Because they are prevalent, contagious and dangerous.

Three million active cases of syphilis and gonorrhea in the United States today is a low estimate. Among some groups of the population the proportion is very much higher. Tests made of the adult admissions to a number of general hospitals in different parts of the country have usually shown 20 percent or more of cases of syphilis (not admitted as such).

Both syphilis and gonorrhea are contagious. They affect the present, and also the next generation. Their prevalence saps national stamina.

2. Why combat these diseases now?—Officially we are still at war, and the conclusion of peace will not mean immediate demobilization. Syphilis and gonorrhea are the most serious single causes of illness and inefficiency in the army. It has been demonstrated that the sources of these infections lie not within the army itself, but in civilian life. The War Department, the United States Public Health Service, the Council of National Defense, and the War Camp Community Service have therefore joined in a national campaign to bring every civilian community to take aggressive steps to control, treat and prevent venereal disease.

3. Where do the hospitals come into this program?—Adequate facilities for the diagnosis and treatment of syphilis and gonorrhea are one of the outstanding necessities. The treatment of these diseases requires special skill and equipment, and must be long-continued to be effective. For these reasons, the resources of private medical practice are recognized everywhere by health authorities as inadequate to provide for more than a small fraction of the cases of venereal disease.

The hospitals of the country are the chief institutions which have the equipment and the necessary medical organization out of which the needed organized clinical facilities can be built.

4. Why have venereal clinics?—Because the bulk of cases of syphilis and gonorrhea can and should be treated as ambulatory cases. Out-patient clinics are the chief means through which treatment facilities can be provided for them.

5. Are hospital beds necessary?—Yes. Not for the average case, but for a certain proportion of cases, the use of beds is highly important. Some patients are ill enough to require bed care for a period, and others can be kept under control only by being in an institution until the period of great infectiousness has passed.

6. Have many hospitals successfully maintained such clinics?—Previous to the war, a certain number of representative general hospitals had done so. During the present year, as a result of the war program, about a hundred additional hospitals have established such clinics, but it is still true that, out of over two thousand hospitals in the country doing public work, nearly 85 percent have as yet no clinics for venereal diseases.

7. How are such clinics best maintained?—It is best, when possible, to have clinics for the treatment of syphilis and gonorrhea carried on as part of a general out-patient department which has clinics for other diseases also.

Nearly half of the two thousand hospitals just referred to have some out-patient department already, of which venereal clinics could be made a part.

8. What are the six essential requirements of efficient clinics?—(1) Staff; (2) equipment; (3) laboratory facilities; (4) follow-up system; (5) social service; and (6) coordination with the local public health authorities.

Details of equipment and management will be outlined in a series of articles in THE MODERN HOSPITAL, beginning in this number, page 481.

9. Need expense be an obstacle?—No. In the first place, a number of representative hospitals have maintained such clinics without any net expense, by charging patients fees sufficient to cover

the cost. A large proportion can and will pay. Such *pay clinics* are not at all incompatible with maintaining a large amount of charitable or free work for patients who can pay little or nothing, any more than the maintenance of paying or part-paying hospital beds is incompatible with the charitable and free work of the same hospital.

As a further aid, a number of states have appropriated money to assist venereal clinics when they come up to officially recognized standards of efficiency.

The United States Government has appropriated a large sum of money to fight venereal disease throughout the country. This money will shortly be available to the several states in proportion to population, and may be distributed by state authorities to assist local treatment facilities such as clinics.

10. What should hospitals do now?—If they have clinics treating syphilis and gonorrhea, make sure they are up to standard of efficiency as to all six requirements.

If they have not such clinics, do their part in a great national program by establishing them.

HEATING AND POWER PLANT ECONOMIES FOR HOSPITALS*

Coal Economy a Matter of Patriotic Duty and Personal Benefit—Huge Waste in Average Boiler Plant Preventable—Careful Survey of All Steam Plants Proposed—Fundamentals and Recommendations of National Economy Program

By D. D. KIMBALL, Member New York State Commission on Ventilation, Past-President American Society of Heating and Ventilating Engineers

Never before have power plant economies assumed such importance as at this time. Last year's fuel scarcity is still fresh in the minds of all, and similar conditions are to be feared during the coming winter. Every fuel-user faces a patriotic duty which is, at the same time, a matter of personal benefit. Every ton of coal saved is so much energy released for the promotion of essential war industries and a bit of relief in freight congestion.

Dr. Howell has stated before this society in an admirable paper[1] that "about 10 percent of the expenditures of the average hospital are for the engineering department." Doubtless, owing to the present high costs of fuel and labor, this proportion of cost is now increased. No department of hospital maintenance will be found a more fruitful field of study to promote economies—not that hospital plants are more inefficient than others, but because the vast majority of heating and power plants are notoriously wasteful.

For years mechanical engineers have emphasized the possibilities of improvements to be made in the operation of heating and power plants, but little heed has been given to their statements. It has recently been stated that "it has been determined that the waste in the average boiler plant alone is 42 percent, the most of it preventable." It is certain that few plants are so equipped and operated that a 10 percent, or even 20 percent, saving may not easily be made in operating costs. And a saving of 10 percent of the fuel used means much more in dollars than was the case two years or more ago. Millions of tons of coal must be saved to meet the excess of demand over supply, and this total saving must be accomplished by making some saving in every plant.

So important is this matter now considered by our government that a special bureau of conservation of the United States Fuel Administration has been formed and a careful survey of all steam plants is proposed. A form of "Standard Questionnaire Covering the Operation of Steam Power Plants" is to be sent to all steam-power plant owners, with a view, first, to securing more efficient operation of all plants to reduce fuel consumption, and second, of curtailing the allotment of coal to those plants which fail to comply with the recommendations of the fuel administration in regard to economical methods of operation.

The fundamentals of the national program are as follows:

1. Personal inspection of every power plant;
2. Rating and classification of every power plant in the country into five classes, depending upon the thoroughness with which the owner conforms to the recommendations of the U. S. Fuel Administration.
3. At the discretion of the Federal Fuel Administration, curtailment or complete stoppage of supply of coal.

The standard recommendations of the United States Fuel Administration are substantially as follows:

1. *Fuel*—That means be provided for measuring and recording fuel used each shift or day;
2. *Water*—That boiler feedwater be heated by exhaust steam or waste heat, and measured;
3. *Air Supply*—That a correct amount of air be sup-

*This paper was prepared for presentation at the Twentieth Annual Convention of the American Hospital Association, but it was read by title only.

1 Boiler Room Economics, 1915.

plied to the fuel, and that proper means be provided for measuring and regulating the draft.

4. *Clean Heating Surfaces*—That boiler heating surfaces be kept clean inside and out.

5. *Boiler and Furnace Settings*—That the furnace and setting be kept in good repair and free from air leakage.

6. *Insulation*—That exposed steam surfaces wasting heat by radiation be covered with suitable insulating material.

7. *Engine-Room and Heating System*—That, wherever possible, exhaust steam be utilized to the exclusion of direct steam from the boilers. (The plant should be designed and operated to produce no more exhaust than can be efficiently utilized in heating and process work).

8. *Supervision*—(I) That a competent employee or committee be detailed to supervise the work of fuel conservation in the boiler and engine plants; and (II) that a competent committee be appointed in charge of the work of fuel conservation in the buildings and shops outside of the power plants.

As long as the war lasts, no plant using coal for generating steam or for heating purposes can be considered too small to require the careful attention of some one within the organization. Fuel must be saved, no matter how small the quantity, and this is just the point which must be emphasized. Necessity has brought recognition of facts of which the interests of the fuel user himself should have long ago caused him to take heed.

As serious, however, as this condition now appears, a more enduring fact faces us. As high as is the present cost of fuel and engineering labor, the future cost thereof will not be materially less. For the future, therefore, as well as for the present, the promotion of heating and power plant economies is most essential.

The attention of those interested in this subject is recommended to the *Journal of the American Society of Mechanical Engineers*, July, 1918, "The Economical Use of Fuel."

Existing conditions warrant a careful consideration of those phases of the fuel consuming plant in which occur the greatest wastes, and means by which economies may be secured. In this connection, special emphasis will be laid upon those features which are most emphasized in the questionnaire of the Fuel Administration.

BOILER AND FURNACE SETTING

Although this is the fifth subject in this questionnaire, together with the matter of clean heating systems, it is credited with thirty-two points out of one hundred, so that it becomes exceedingly important that the best conditions should exist in the boiler installation and its operation. Special care should be exercised to keep the boiler clean inside, eliminating all scale and sediment. Similarly, the boiler must be kept cleaned on the outside. The tubes should be cleaned at least every day, and preferably on every shift. The collection of soot should not be permitted at any point.

The masonry work should be kept in good condition. It is often said that more fuel is wasted through leaky settings than in any other way. All cracks should be stopped up with some good filler and a coat of first-class plastic cement should be applied to seal all small cracks and pores in the brick. The settings should be gone over at regular intervals by a competent man. Good results are also obtained by applying elastic coatings which are available for this purpose. Access and clean-out doors should be made thoroughly tight. Leaks about the blow-off and other pipes connected to the boiler should be eliminated. The grates should be of the best design and in good condition. Warped, broken, or otherwise defective grates should be replaced.

Twelve points out of one hundred in the questionnaire are allotted to the matter of air supply. Insufficient draft or an excess of draft seriously affects boiler efficiency. The smoke connections from the boiler to the chimney should be well and tightly constructed. An adjustable damper in the throat of the smoke connection of each boiler should be provided and another damper in the main smoke connection. The latter should be automatically controlled by an approved damper regulator. Every boiler should be equipped with a reliable draft gauge, so that the engineer may determine whether his draft is at all times sufficient. A proper draft gauge would also tell whether the fire is too thick or too thin, whether it is evenly spread, or whether holes in the fire bed exist, and whether, in the case of battery boilers, some boilers are overloaded, while others are lagging.

It is often found in large plants that more boilers are operated than are necessary, with a lessened efficiency. In some cases boilers are unnecessarily and undesirably overloaded.

AUXILIARY EQUIPMENT

All boiler trimmings should be kept in good condition. Pumps should be of an efficient type and free from leakage. Feed water heaters are most essential. It is generally allowed that for each ten degrees increase in temperature at which the feed water is supplied to the boilers a 1 percent saving is made in the fuel, this being exceptionally true where the heating of the feed water can be accomplished by the use of exhaust steam or by utilizing the heat by the waste gases. A feed water filter is also desirable to eliminate scale and sediment forming elements from the feed water.

All traps should be examined to see that they operate properly and do not leak. Many instances are found where traps are wasting hot water to

the sewer, when this water, and especially its heat, might be saved. All hot surfaces should be thoroughly insulated. The pipe covering should be kept in repair. All flanged joints should be covered. No hot surfaces, whether carrying steam, condensation returns, drips, or hot water, should be uncovered in any portion of the plant.

For the hot-water supply of the building, storage heaters should be provided. Automatic thermostats controlling the temperature of the water should be provided. The distribution of the hot water from the hot-water tanks to the fixtures in the building should be by means of a circulating system, and the hot-water tank and all hot water piping should be covered with asbestos.

Proper coal and ash handling equipment should be provided to lessen the labor of the operating force, so that more attention may be given to the economical operation of the plant.

EFFICIENCY DETERMINATIONS

Relatively few hospital plants are equipped with devices which make possible the determination of the efficiency in operation. Only by the use of fuel and water measuring instruments can a correct determination of the efficiency of a plant be had. Every pound of coal and water fed to the boilers should be measured.

Reliable coal scales are a most essential element in every plant, but without means of measuring the water the results obtained from fuel burned are at best a matter of guess. The water fed to the boilers may be measured by means of Lea Feed Water Recorder or Venturi Feed Water Meter, or steam flow meters may be applied to the main boiler connections. In large plants the use of steam flow meters in the main supply and the different departments is highly desirable. In this connection, the uniform feeding of boiler with both coal and water is most desirable.

With the quantity of coal fired and water fed to the boilers known, a simple calculation determines the amount of water evaporated per pound of coal and roughly determines the efficiency of the plant, for a more exact determination of the temperature of the feed water and the heat value of the fuel should be determined, the former by a reliable indicating or recording thermometer, and the latter by an analysis of the fuel by means of a bomb calorimeter. The former is warranted in all plants, and the latter in large plants. For small plants, an analysis of the fuel can be had in many commercial laboratories. The value of the draft gauge has already been mentioned. It is often desirable also to determine the temperature of the waste gases. In addition, an analysis of the waste gases is emphasized by many authorities and is highly desirable in large plants. The percentage of carbon dioxide present in the waste gases gives a very clear indication of the efficiency of the fuel combustion.

All the data obtained from the intelligent use of these instruments should be written systematically on a specially arranged log sheet and a daily calculation should be made to determine the efficiency of the plant. The result of this calculation may helpfully be plotted upon a sheet, showing the progress made in increasing the efficiency of plant operation.

PLANT OPERATION

In the operation of the plant, proper fuel selection and intelligent operation will inevitably bring about the best results. Just at this time, the proper selection of the fuel is a difficult matter, but its intelligent use is most essential. Low-priced labor in the boiler and engine room is always most expensive. Skilled service, even though at high wages, is always most economical. Nothing should be permitted to interfere with the principal duty of the chief engineer, which is the proper supervision and economical operation of the heating and power plant, and daily report as to the results of the plant operation should be required of him. He should be held responsible not only for the operation of the plant, but also for its maintenance, for the upkeep of repairs, and for the appearance of the plant. The prevention of leaks and wastes should be most rigidly insisted upon, this applying both to the heating and plumbing system.

Experts in the economical operation of power plants should be employed to consult and cooperate with the operating force of every large heating and power plant. The proper selection and installation of the instruments herein referred to are not sufficiently understood by the average operating engineer. Neither is that use of these instruments which will promote maximum efficiency in plant operation thoroughly understood. To both should be applied the judgment of thoroughly experienced designing and operating consulting engineers. Patriotism and self-interest urge zeal and promptness in these matters.

The Merchants' Association of New York City, in a letter sent by its Committee on Pollution and Sewerage to Director General William G. McAdoo of the U. S. Railroad Administration, urges the installation of suitable sanitary devices in railroad trains to protect water courses adjacent to railroad rights of way from contamination by the discharge of the contents from train water-closets. The use of a "sealed closet" is recommended, and it is believed that its installation on cars built during government control of the roads would be inexpensive.

Those who can take the lead are given the lead. If they neglect this opportunity, theirs is the responsibility for the failures which must ensue.—Arthur T. Hadley.

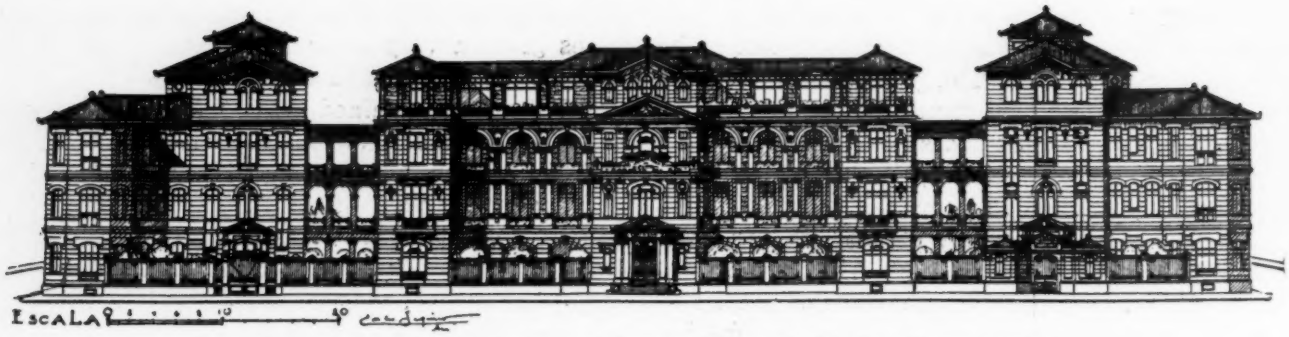


Fig. 1. Administration building or main front of the Roberto del Rio children's hospital.

THE HOSPITALS AND THE HOSPITAL SYSTEM OF CHILE*

A Highly Centralized System, in Which Private Charity Is Administered Under Government Control—Hospitals of Santiago, Valparaiso and the Provinces —Schools for Nurses and Midwives

By M. K. CHAPIN, Managing Editor of The Modern Hospital, Chicago

The hospitals of Chile appear to be organized on a plan which presents some rather interesting and, to people in this country, unfamiliar features. In theory, at least, Chilean hospitals are apparently not regarded as functions of the state. They are favorite objects of private charity. We are told, for instance, of the prevalence in the provincial city of Antofagasta of the admirable custom of honoring persons deceased, not by perishable funeral wreaths, but by gifts to the local hospital[1]; and a similar practice seems to be not unknown elsewhere in Chile, for, here and there among the records of substantial bequests and donations, running up into hundreds of thousands, to hospitals in various places, appear such items as the gift of 940 pesos (about 340 dollars) from the medical society of Concepción to the children's hospital of that city in honor of the recently deceased Dr. Roberto del Rio. Again, we read that, a certain hospital being about to close its doors for lack of funds, a private citizen (a candidate for the senatorship, by the way) in that province came forward with the offer to pay its expenses out of his own purse.[2]

Few Chilean hospitals, however, are autonomous private institutions. Of the 108 hospitals existing in the republic in 1915, all but 7 were controlled by local quasi-governmental boards of charities (juntas de beneficencia); and these local boards were in 1917 placed under the control of a superior council of public charity (Consejo Superior de Beneficencia Publica). Thus the hospitals are under a highly centralized form of control.

The principle on which these local boards were originally organized was supposed to be that of independent subsistence on their own individual funds, together with the contributions of charity. The proportions contributed by the central government and by the municipalities, however, have increased from year to year until the juntas de beneficencia have been transformed from private institutions into public services, maintained chiefly from government funds.[4] Of the 8,528,043.58 pesos (about three million dollars) spent by the hospitals in 1915, 4,165,959.66 pesos, or nearly half, was contributed by the central government; 66,752.59 pesos was given by the municipalities; 443,384.10 pesos came from private donations; and 3,813,877.23 pesos was the income from the property owned by the juntas de beneficencia themselves.[2] Although the constitution and the law require the municipalities to maintain charitable institutions, they are unable to fulfill this obligation unless aided.[5]

In August, 1917, the president of Chile issued a decree establishing a superior council of public charity intended to unify the action of the various local boards, to advise the government with regard to the distribution of public funds and the plans offered by the departmental juntas, to draw up a plan for the organization of the services, etc.[6] The members of this central council are chosen in part by the national government and in part by the local boards. The council publishes a quarterly review, the *Revista de Beneficencia Publica*, on information contained in the various numbers of which this article is based.

*This article is a collective abstract, drawn from articles contained in the Revista de Beneficencia Publica, the organ of the Consejo Superior de Beneficencia Publica of Chile. All of the following footnotes refer to this review. The accompanying illustrations are from this periodical.

[1] Cronica, March, 1918, II, 1.
[2] Cronica, September, 1917, I, 95.
[3] Cronica, September, 1917, I, 93.
[4] Santelices, R., Philippi, J., and Gormaz, J. M.: Los Impuestos a Favor de la Beneficencia, November, 1917, I, 293.
[5] Philippi, J.: Discussion, October, 1917, I, 158.
[6] Creación del Consejo Superior de Beneficencia Publica, September, 1917, I, 90.

GENERAL VIEW

The 108 hospitals existing in 1915 offered a total of 10,395 beds, of which 9,468 were free and 927 for paying patients. The hospital provision for men consisted of 5,778 beds, and that for women, of 4,617 beds. The total personnel consisted of 36 resident and 364 non-resident physicians, 19 pharmacists, 539 nuns, and 2,954 employees.[2] The death rate of Chile is high (29.04 per thousand)[7] and this hospital provision for a country of over two million inhabitants is very inadequate.

Santiago, the capital, possesses, in the Hospital de San Juan de Dios, the oldest hospital in the country, whose foundation in the middle of the sixteenth century dates back to the conquest, or at least to the *conquistadores*. The Junta de Beneficencia de Santiago, founded in 1819, is likewise the oldest of the local boards, besides being the most active (it organized the first congress of the various juntas de beneficencia in 1917) and the most influential (it sends two members to the superior council, whereas the other juntas send but one each). Besides the Hospital de San Juan de Dios, the Santiago board controls eight other hospitals with a total of between three and four

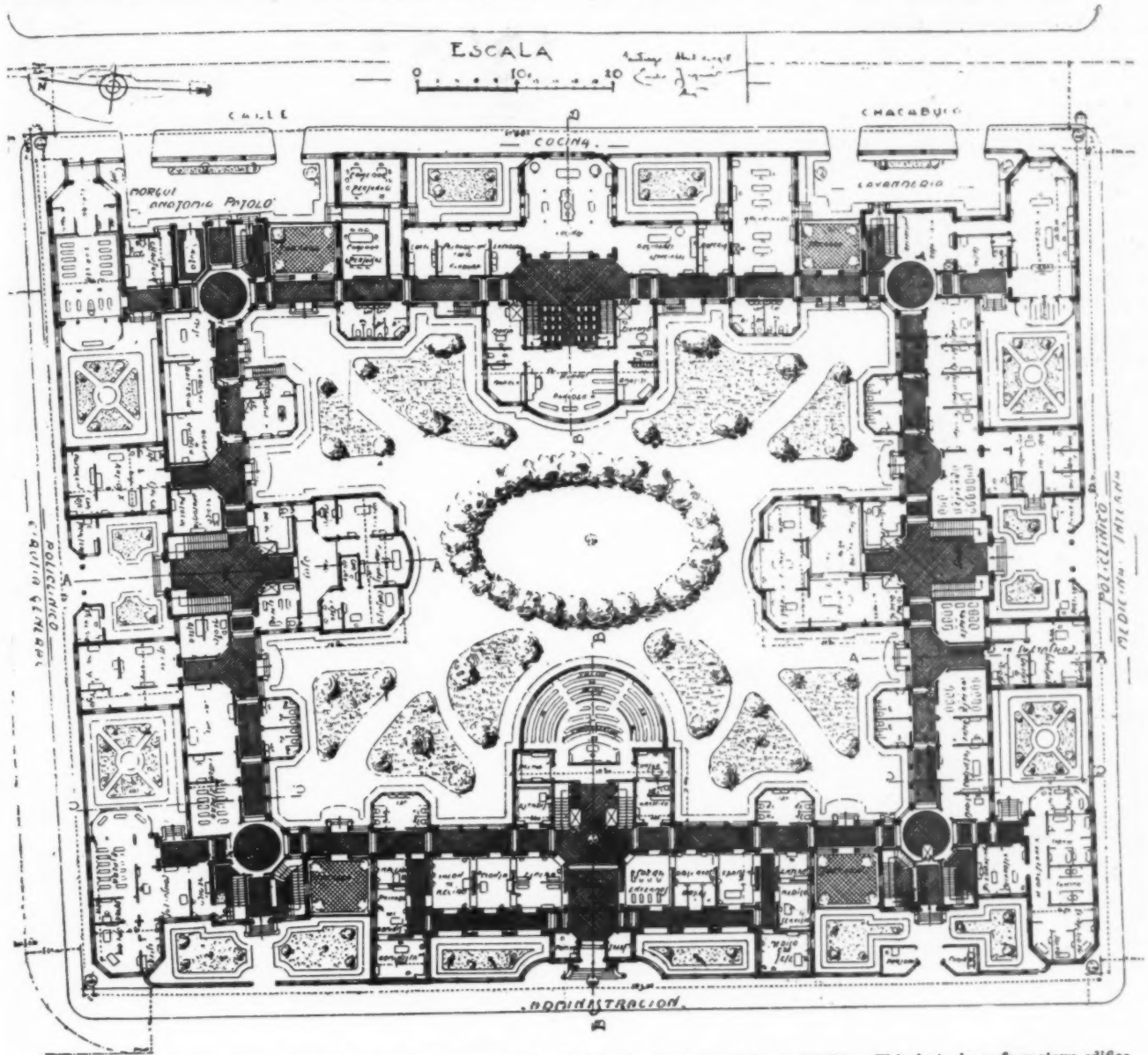


Fig. 2. Ground floor plan of the projected 425-bed children's hospital in Santiago, the Roberto del Rio. This is to be a four-story edifice, occupying with its grounds a city block. It is built around a hollow square and really consists of four separate buildings, connected at the corners of the square by open galleries, which permit a free circulation of air in the court within. The western building (lower side of cut) is the administration building, with a lecture ampitheater back of the reception rooms. The southern side (right of cut) is devoted to the internal medicine polyclinic and wards, with a section for infectious diseases. The north side contains the surgical polyclinic and wards, with a section for infants. The east side (top of cut) contains the morgue and laboratory of pathologic anatomy, the kitchen, laundry, and dining rooms for the personnel, with rooms for the sisters, nurses, and servants above. The scale on the plan represents 20 meters (about 65 feet).

[7] Cadiz, M., and Edwards, C. R.: Hospitales Especiales para Infecciosos, November, 1917, I, 207.

thousand beds, an orphan asylum, an asylum for the insane, and an extensive and important outpatient system, with nine dispensaries attached to hospitals and six operated independently. Two of the large hospitals for children, the Manuel Arriarán and the Roberto del Rio, are noticed later on in this review.[8]

One of the first endeavors of the Consejo Superior de Beneficencia Publica was to find out the actual hospital situation of this country. A hospital survey was accordingly made of Valparaiso, which is estimated to have about two hundred thousand inhabitants, and is the city next in size after Santiago. This survey shows five hospitals with a total of 1,343 beds, including beds for aged persons and chronic and infectious cases, under the control of the junta de beneficencia of that city. This is regarded by the author of the survey as a thousand beds short of the needs of the city, which is the most important seaport in Chile and consequently receives through immigration and emigration more than its share of cases of sickness.[9]

Except in Santiago and Valparaiso, the hospitals lack most of the modern facilities for diagnosis and treatment. For instance, it is said that, in a city of twenty thousand inhabitants, the first appendicitis operation was recently performed in the only hospital, which as yet had no operating room.[10] Because the provincial hospitals are without diagnostic laboratories and installations for radiotherapy, mechanotherapy, electrotherapy, etc., well-to-do patients generally go to

Fig. 3. The court and gallery of the building occupied by the Manuel Arriarán children's hospital, Santiago, until the new building is completed.

Santiago for treatment, and charity patients, if their cases are difficult, are sent there at the expense of the local junta de beneficencia or by public subscription.[11] This puts a heavy strain on the hospital facilities of the capital.

MATERNITY HOSPITALS AND THE TRAINING OF MIDWIVES

Experience in the United States furnishes no grounds for surprise at finding obstetrics a relatively neglected branch in Chile. Taking the country as a whole, the proportion of maternity

Fig. 4. Waiting room of the polyclinic of San Juan de Dios, Valparaiso.

beds to population is 1 to 8,500, and there are groups of three and four provinces each which have not a single maternity hospital among them. Those which do exist are said to have inadequate attending staffs and insufficient facilities for isolating infectious cases, for care of feeble and premature infants, and even for sterilizing water and dressings. Moreover, it is current practice to refuse treatment to a pregnant woman in any other than the obstetric service, and to separate the obstetric from the gynecological service.[12]

Midwives form a recognized part of the staff of maternity hospitals, and one of the complaints against the present maternities is the insufficient number, not only of physicians but also of midwives. A school for midwives (Escuela de Obstetricia y Puericultura para Matronas) is conducted under the auspices of the medical school of the University of Chile, at the Hospital de San Borja, Santiago. The course is two years in length and instruction is free. The requirements for entrance are age over eighteen and under thirty, good health, good moral character, and five years' schooling. Resident and non-resident pupils (called interns and externs) are received. Each province except Santiago and Valparaiso is allotted an internship, and the candidate is re-

[8] Viel, V. B.: Speech before the Primer Congreso de Beneficencia Publica, October, 1917, I, 133.
[9] Deformes, E.: El Problema Hospitalario en Valparaiso, September, 1918, II, 201.
[10] Gomez, V.: Plan de Fomento de los Hospitales Departmentales, December, 1917, I, 396.
[11] Guzman: Creación de Hospitales, December, 1917, I, 403.
[12] Mönckeberg, C., Espic, J. E., and Montt, M. G.: Maternidades y Hospitales, November, 1917, I, 248.

quired to give bonds amounting to 1,000 pesos (about $360) that she will practice her profession in her home province for three years after graduation. In the four years from 1914 to 1917, inclusive, the school has graduated 110 midwives.[13]

CHILDREN'S HOSPITALS AND CHILD WELFARE

This subject appears to be one of much interest in Chile, if one may judge by the cities of Santiago and Valparaiso. The former city has under construction one large hospital of 374 beds for children, the Manuel Arriarán. The accommodations will comprise 162 beds for general internal medicine, 50 for infectious medical and surgical diseases, 116 for general and special surgery, and 46 for nurslings.[14] Plans are shown for enlarging another children's hospital, the Roberto del Rio, to a capacity of 425 beds.[15]

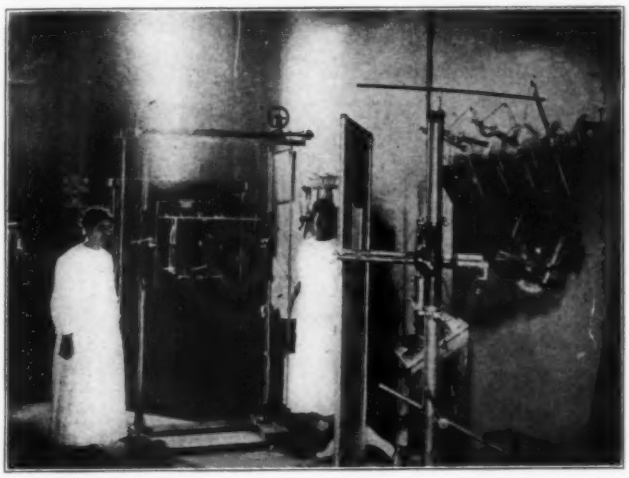


Fig. 5. X-ray room of the polyclinic of San Juan de Dios, Valparaiso.

Santiago has several societies devoted to child welfare. One, composed of women, the Sociedad Protectora de la Infancia, gives medical and other relief. Another, composed of men, the Patronato del Infancia, maintains a little asylum with fifty beds for mothers and a hundred for infants. Here mothers are received with their infants on discharge from the maternity hospital, cared for temporarily, and helped to make a new start in life; here also are taken children whose mothers are in hospitals.[16] Ten "gouttes de lait" stations (Gotas de Leche) are maintained in Santiago, and the Gota de Leche has been successfully introduced into almost all the cities of the republic. Still another society, the Ollas Infantiles, is undertaking to furnish meals to undernourished school children.

Valparaiso has a private hospital for children, eighty-five beds for children in the public general hospitals, and an active Sociedad Protectora de la Infancia.[17]

OTHER SPECIAL INSTITUTIONS

Tuberculosis Hospitals.—Santiago has one institution devoted to tuberculosis, the Hospital de San José, which in 1916 received 2,744 patients.[18] Valparaiso has two, with a capacity of 218 beds, the Hospital del Salvador, for chronic tuberculosis, and the Sanatorio de Peña Blanca, for curable cases.[9] Tuberculosis is very general in Chile, and the mortality is high. It is estimated that over 70 per cent of the population is tuberculous, and nearly 29 percent of the deaths in Santiago are due to this disease. Soza[18] believes that 10 percent of the available hospital beds should be devoted to tuberculosis.

Hospitals for Other Communicable Diseases.—Isolation pavilions for the care of communicable diseases are lacking. Vaccination against smallpox is not compulsory in Chile. Infectious diseases contribute largely to the mortality.[19]

Fig. 6. A pupil in the School for Nurses, Santiago, showing the working uniform (now temporarily discontinued owing to war-time prices of materials) and case for equipment.

[13] Barros, J. R.: La Escuela de Obstetricia y Puericultura para Matronas de la Universidad de Chile, March, 1918, II, 19.
[14] Comments, A.: El Hospital de Niños Manuel Arriarán, Santiago, September, 1917, I, 14; June, 1918, II, 154.
[15] Jequier, E.: El Hospital de Niños Roberto del Rio, September, 1918, II, 231.
[16] Instituciones Privadas de Beneficencia, September, 1918, II, 328. Valdés Valdés, I.: El Problema de la Infancia, September, 1918, II, 267.
[17] Lindsay, O.: La Sociedad Protectora de la Infancia de Valparaiso, September, 1918, II, 273.
[18] Soza, E.: Hospitalización de los Tuberculosos, December, 1917, I, 445.
[19] Cadiz, M., and Edwards, C. R.: Hospitales Especiales para Infecciosos, November, 1917, I, 207.

Hospitals for the Insane.—The Casa de Orates de Santiago shelters over 1,900 patients of all classes and grades—acute and chronic, curable and incurable cases, epileptics, idiots, cretins, imbeciles, senile dements, alcoholics, and criminals. The need of a system of psychiatric hospitals and institutions for different classes of mental disease or defect is emphasized.[20]

NURSING AND NURSING EDUCATION

The profession of nursing was officially established in Chile through the foundation in June, 1906, of the state school for nurses. The course is two years in length, and includes theoretical work, taken in the morning, and practical work in the hospitals during the afternoon. A uniform, modeled on that used in the United States, had been adopted, but the outbreak of the present war doubled the cost of the materials and caused its discontinuance.[21]

The part played by members of the religious sisterhoods in the conduct of the hospitals makes it necessary that the sisters should understand nursing. Accordingly, in 1917 courses of instruction for the sisters were established in the Santiago hospitals del Salvador, San Borja and San Juan de Dios. In the Hospital de San José, where twenty beds have been set apart for purposes of instruction, the sister superior has endeavored to modify the habit worn by the sisters to make it more suitable for nursing.[22]

In general, the cure of the sick would appear to be at least partially in the hands of attendants (*cuidadores, veladores*) whose duties and status are not defined in the sources of information available.

HOSPITAL STANDARDIZATION

Chilean hospital administrators are very eagerly and earnestly seeking standards on which to model the organization and administration of their institutions. The hospital standardization movement in this country is apparently being followed with lively interest in Chile. A rather full abstract of the hospital standardization meeting of the American College of Surgeons appears in the *Revista de Beneficencia Publica*,[23] and the reviewer remarks, "The authoritative pronouncement of the Chicago committee is a powerful reenforcement of our opinions." One characteristic shared by the various writers in the *Revista* seems to be a sincere desire to see their own present hospital situation in the light furnished by the best achievements of Europe and America. Chile is apparently working out her own hospital problem.

[20] del Campo, M.: El Problema de la Hospitalización de los Enajenados, November, 1917, I, 317. Lea-Plaza, H., and Fontecilla, O.: El Problema Nacional de la Hospitalización de los Alienados, November 1917, I, 397.

[21] Lira, E. D.: La Escuela de Enfermeras de Santiago, June, 1918, II, 126.

[22] Carvallo, C. V., and Lira, E. D.: Organización del Servicio Médico Auxiliar, December, 1917, I, 343.

[23] Amunátegui, G.: Normalización de los Hospitales, March, 1918, II, 41.

AFTER THE WAR—WHAT?

The Return of the Hero and What It Means—Prospect and Retrospect

In other days, the old soldiers' home was a shelter for the seemingly helpless and a harbor for the inefficient idle. The name itself, says Callie Hull, writing in the *Vocational Summary*, is reminiscent of the beautifully kept roomy house, with its multitude of benches, on which the heroes of the past sat idly all day long, whittling uselessly at broken twigs, poring over the thumb-worn pages of old magazines, or smoking away the hours which hung so heavily on their hands. Evening brought the supper-bell and the long lines of cripples, with empty sleeves, stumping wooden legs, or sightless eyes, who came together at the long table for the common meal. After that, gathering shadows and darkness—and all were off to dreams of days gone by—days when, with strong bodies and active minds, they had faced the world as men, before the sacrifice of hope, home, work, success, and their very all. A place of idleness and inactivity, clouded with the atmosphere of retrospect, filled with the broken bodies and stagnant minds of men who had read over the door at the time of their entrance the fact that their lives had already been lived—that was the old soldiers' home of the days gone by!

The future will not repeat the past. It will be "the home of the soldier" rather than "the soldiers' home." Reconstruction will be individual rather than institutional. To each returning soldier, the nation will extend a cheery welcome, in the assurance that nothing will remain undone to help him find himself and to equip him for a place in the industrial world—a place which will not be donated to him through a sense of gratitude and charity, but one which he will hold by sheer force of his own ability and fitness. After the best of medical attention, training will be given him, either in a new vocation suited to his disability or in more extensive study which will better equip him to resume the old. Workshops will be open for instruction, colleges will offer courses in agriculture, mechanics, engineering, clerical work, etc., and factories will extend a welcome hand in the matter of training. Everywhere the returned soldier will find that the right of way is his.

The future does not face a "home" set apart at a safe distance from the sphere of industrial activity. Rather it sees "homes," scattered about everywhere, in the large cities, the smaller towns, and the broad expanse of farms, just as they were in the days before the call of war had sounded through the land. And to each, in the evening, will return a man who, in spite of physical handicaps, is holding his place in the industrial life of the nation. The fact that a missing limb has been replaced, that an eye no longer sees, or that an ear has been deafened forever will not make any less cheery the welcome which awaits him from the woman at the gate or the child who toddles down the street to meet him. For the bell at evening will call him, not to an institutional board, but to his own table, where he will talk of the things that are, rather than of those that were, and of the work that lies ahead, rather than that which was ended when the war began; and, while his wounded body will bear, perhaps, the scars of battle, his active mind will look, not backward on the remains of a life that has been ended, but forward to the hopes of a life that is still to be lived.

THE WAR-TIME ECONOMY PROBLEM IN THE HOSPITAL*

Best Results Obtained When Spirit of Patriotism Is Urged Among Employees—Ways of Solving the Labor Problem—Keeping Hospital Up to Full Capacity Greatest Single Economy—Quantity Buying Unpatriotic

By THOMAS ALAN DEVAN, M.D., Assistant Superintendent, Peter Bent Brigham Hospital, Boston

THE subject of economy in hospital administration, important at all times, is especially so in war-time. The practice of economy has long been a studied art with hospital superintendents, but the fact that the government has requisitioned labor and supplies on such an extensive scale has made it necessary that the whole field of hospital management be gone over anew with a view to instituting further economies. When some hospital essentials have advanced 200 per cent in price within two years and the former scale of wages has been entirely discarded, it behooves us to attempt to inculcate a habit of economy among all hospital workers.

The campaign for economy, at all times unpopular, is, in these war-time days, less so than formerly. When the plea for economy is put upon a patriotic basis, it is heeded the more readily. The public press has aided greatly in putting people in a frame of mind to listen to arguments for economy. From the standpoint of hospital administration, every means of fostering the patriotic spirit throughout the hospital household should be encouraged. Employees should be urged to invest in Liberty bonds and war saving stamps; the bulletins of the Food Administration should be posted; and short talks to the nurses and help on the scarcity of gauze, thermometers, and crockery should be periodical—all to the end that the war may be made real and personal to each hospital worker. It is in this way that we can make each one interested in the practice of economics. The doctor or nurse will not save gauze unless interested in saving it; the kitchen-men will not save grease unless interested in saving it. When these measures are urged as patriotic duties, they receive greater attention.

The study of economy in war-time is the same elusive study it has always been. It is the same close attention to the labor requirements of a situation, the same exercise of careful judgment in the purchase of supplies, and the same diligent tracing of the course of supplies through the institution that it always has been.

GENERAL HOSPITAL ECONOMIES

1. The labor shortage is outstanding. It is an interesting and significant fact that the hospital is one of the few organizations all of whose trained and experienced personnel is urgently needed by the war machine. Doctors, nurses, orderlies, pharmacists, technicians, and ambulance drivers—all are war essentials in the military sense. Because of this, very soon after the outbreak of the war, hospitals had to curtail activities wherever possible. One of the first places to feel the pinch was the research laboratory. Research work has necessarily suffered. We all know how much time and money were devoted to research. We also know how much research work was undertaken, which, from the outset, could have only a most remote usefulness. At present, however, little research work is carried on, and none should be sanctioned which has not a fair prospect of useful results, since for no other pieces of research work can the expenditure of time and money be afforded.

Because of the shortage of male help, women have been employed wherever possible. At the Peter Brigham Hospital women are employed to tend the steamtable in the serving room, to operate the utensil-washer in the kitchen, as night cook, as night switchboard operator, as pharmacists, and even as ambulance drivers—all to replace men. One hastens to remark that not all of these represent wage-saving on the part of the hospital, because these women are frequently paid as much as men formerly received, though not as much as men at the present time would have to be paid. But it represents a saving of the manpower of the country by just so much. Some hospitals have found it impossible to obtain ward maids and have been forced to have this work done by the nursing force. We have not been forced to change back to the twelve-hour tour of duty for nurses and are not thinking of doing so. We have admitted to the training school larger classes than in pre-war days, and it is probable that we will have to use senior pupils in increasing numbers as head nurses. The Peter Brigham Hospital has derived slight benefit from women volunteers. We have made use of some volunteer workers in the social service department, in the library, on the wards as nurses' aids, and for short intervals in our pharmacy. But volunteers for war work prefer to get in more direct contact with the military forces than the average hospital can supply.

*Read before the Twentieth Annual Convention of the American Hospital Association, Atlantic City, N. J., Sept. 24-28, 1918.

2. An important general measure of hospital economy is to have the hospital take care of as many patients as it possibly can. While we, as hospital executives, have our attention focused so largely on economical measures of purchasing and conserving supplies, we are likely to lose sight of the fact that a hospital running at half its patient capacity is a ship with its cargo space but half filled. How can this be controlled? Perhaps we cannot expect a full hospital all the time, but we can adopt one or two measures to help keep the beds full. The most important measure is to insist that the admitting officer get into the habit of mind of accepting cases whenever possible. The writer believes that many admitting officers often seek reasons for rejecting patients. The admitting officer must make the family physician and the patient feel that he is cooperating with them to accept the patient and not take the attitude that the doctor much furnish good and sufficient reason why the patient should be accepted. He must not study up technical grounds upon which he can safely reject patients; he must make it his practice to admit whenever possible. If the surgical beds are full and the medical service has empty beds, transfer convalescent surgical patients to medical wards and accept new surgical patients. This will not please the physicians, but they can have small grounds for complaint; for, if they cannot fill their own wards, then these wards must be filled for them.

3. It is recognized that a great deal of time and money is wasted in the way in which patients tour from one hospital to another. A duplication of records and a wastage of x-ray plates and laboratory supplies, to say nothing of the time of the doctors and nurses, always results when a patient goes aimlessly from one hospital to another for the same complaint. Occasionally this is necessary to obtain particular opinions. But is it not our duty to urge the patient to return to the hospital where first treated or to bring a letter from that hospital, stating the reasons why it is desirable that the patient be admitted? If the government were to assume control of hospitals, as has been done in the case of colleges, perhaps this repeating process could be controlled. Indeed, such a sweeping war change would result in many important economies.

4. Shall the hospital, as a matter of war-time economy, do quantity buying in the face of prospective higher prices? This is a question which has been answered in the negative at the Peter Brigham Hospital. It is our general policy not to buy extensively for future needs, because we do not consider it patriotic to do so. Heavy buying tends to produce just the shortage which the government is striving to avoid. Furthermore, if one buys for future needs, there is practically no point short of the limits of the treasury where he may stop. Every ardent salesman tells us that the commodity in which he is interested is to be advanced in price 10 per cent or 20 per cent next week or next month. As no article, except those the prices of which the government has fixed, is exempt from this upward tendency, there is no limit to the list of articles which we are advised to store away. The two or three exceptions to our general policy have been on butter and eggs. We have put into storage about four months' supply of each of these necessaries. After all, should not the hospital stand on its own footing and seek, along with everyone else, its chance of procuring supplies as they are needed? We believe it should. In connection with the question of quantity buying comes that of centralized buying. This has been tried out thoroughly enough through the Hospital Bureau and other agencies to have established its usefulness on a sound basis. Rapidly advancing prices render it especially important and profitable to make use of contract agreements such as these agencies have in force. Moreover, it is a great economy of time, because one knows that the contract price represents the bottom market price. It is a war-time economy to make ever increasing purchases through a centralized agency.

SPECIAL HOSPITAL ECONOMIES

Among the numerous separate items of hospital economy which may be mentioned are the following:

1. In an institution where gauze is "recovered," it is perhaps more economical to purchase a 24-20 grade gauze instead of a lower count, inasmuch as the better gauze at a cent or cent-and-a-half increase in price can be washed perhaps five or six times, while the lighter weight will stand but three washings. Also, on the wards, for extensive urological drainage cases, a Bethune pump is found to save gauze greatly. Paper bandages and absorbent pads, "cellucotton," and sphagnum moss are passably satisfactory as substitutes for gauze and cotton. Where one has access to a good cotton-picking machine, the most economical and satisfactory method of overcoming the cotton shortage is to have old white rags picked over into cotton. At the Peter Brigham Hospital we have had to buy almost no cotton since installing a cotton picker. This picked cotton is very absorbent; in fact, it is so satisfactory as absorbent cotton that the institution now buys no absorbent cotton, so-called. At present we have just about enough white rags to supply our needs as cotton.

2. Our consumption of glycerine has been cut in half by excluding its use from a mouth wash extensively used on the wards and limiting its use in enemas. Similarly, absolute alcohol is no longer used at the Peter Brigham Hospital.

3. When a gas-ether apparatus is used for anesthesia it is important to have some one who will be responsible for seeing that all valves are tight. A leakage here is a leakage in the exchequer.

4. In pre-war times, enamel urinals were not used at the Peter Brigham Hospital. Poor glassware has been the rule for the past year or so, and recently we have installed enamel urinals for all "precaution" cases, as the glass ones would not stand sterilizing without breaking. A considerable saving has resulted.

5. The suggestion is made that, as a matter of hospital economy, two lectures on the costs of hospital supplies be inserted in the curriculum of the training school for nurses.

6. Until recently, bath blankets at the hospital were sent to the laundry after being used once. Now each patient has a set of two bath blankets. These are kept in his bedside table and are changed once a week. This procedure has reduced the number of bath blankets passing through our laundry by 50 percent.

7. Turkish toweling is now purchased by the yard and made up in the sewing room. Allowing for all costs, it is estimated that we save just the difference of one grade of toweling.

8. Perhaps the dietetic department has seen more modifications due to war exigencies than any other. This is doubtless due to our effort to keep up with the regulations of the Food Administration. But these regulations frequently do not point in the direction of economies. Nowadays, however, we find ourselves purchasing oranges of considerably higher counts, veal in larger amounts, cattle of lighter weight, less beef, and prunes of much smaller size, than formerly. Every other week, fish can be served on three, instead of the customary two, days. Tripe, liver and tongue are served more frequently than formerly in an effort to follow the directions of the Food Administration. Merged butter is used at some institutions. We agree with those who believe that coffee can be enhanced in flavor by the addition of a little chicory, and this permits the purchase of a lower-priced but satisfactory coffee. Our very limited experience with egg powders and milk powders has not been encouraging. The labor shortage has brought about the adoption in some hospitals of a cafeteria system of serving nurses and help. A great economy of food and labor is claimed for this system, as well as a great saving of dishes. In most serving rooms, the employment of war-help has resulted in a greatly increased bill for replacing crockery. At the Peter Brigham Hospital a new dish-washer recently broke $22 worth of dishes in one week. It is probably poor economy to get a cheap man at this post.

9. In the wards a very appreciable saving of food has resulted from urging the nurse to study carefully the dietetic requirements of her patients and not to serve them twice the amount she knows they will eat. We have observed the shrinkage in our garbage as a result of this measure.

10. It is interesting to note that, in the nation-wide food conservation campaign, so little has been said about the destruction brought about by rats and mice. Yet it is even more important than ever in these days of soaring prices to attack these ever-present pests. In our experience, the careful distribution of poison has been most efficacious. One person should be made strictly accountable for its distribution, care, and final collection.

11. A word about the war-garden. We believe that, unless the hospital has considerable land at its disposal or unless it can make use of patient help, a war-garden is not an economy. All that can be said for it is that it helps to stimulate the habit of economy throughout the hospital and that it fosters the patriotic spirit. As a saving of money, the war garden fails.

12. For one hospital extravagance we have yet to find a good remedy, and that is, prodigality in the use of hot water. Close attention to faucets and the adoption of automatic shut-off valves, such as are in use on some laundry machines, may check a little of the wastage, but how much flows on to the sea! Possibly the hot-water service could be shut off from some buildings for a portion of each day. For the coming winter, in the face of another coal shortage, we should look to economy in electricity as well as in hot-water service. Then too, we must conserve heat. Last winter we closed up a great many doors and windows for the season. It was surprising the number of places we found we could close up without interfering with ventilation. This, together with a "close-the-door" campaign, resulted in a considerable conservation of heat.

13. Probably in these brisk war days, time- and labor-saving machines are especially economical, even though the machines themselves have gone up in price. We have recently installed some additional machines in the laundry. The work of the laundry cannot proceed faster than the capacity of its slowest machine. If there be

a backing up of the work before the extractors or the dryers or the presses, the appropriate remedy is indicated. This sounds simple, but at the Peter Brigham Hospital such a backing up had apparently existed for many months without its becoming known. It is, therefore, the part of economy to see that all the working parts of the laundry are evenly coordinated.

SUMMARY

By way of summary, one can say that war-time economies are pre-war economies intensified. They mean the subordination of all the hospital activities to the chief essential of caring for patients and training nurses. They mean, too, the adoption of broad policies, such as the policy of attempting to make the war real and personal to each hospital worker in order that he may be interested in economizing; the policy of striving to keep every bed full; the policy of fostering centralized purchasing; and the master policy of eternal vigilance.

Abstract of Discussion

MR. DANIEL D. TEST, Philadelphia: I have called the doctors, the nurses, and the employees together separately, about once in three months, and I have talked over the problems of the cost of material and the very great difficulty that we have in getting money to pay our expenses. The added cooperation even of the cleaners in using soap has been a very large saving, and it has brought about a new spirit of cooperation and loyalty. They like the idea of having the superintendent come and talk to them.

After careful investigation we find that the use of a 24-28 grade of gauze is much more economical than the one that was recommended here, 20-24.

HOSPITAL ACCOUNTING

Detailed Allowances and Expenditures of Departments Shown from Month to Month by Expense Analysis—Value of System in Stopping Leaks—Benefits of the Budget System

BY CHARLES A. PORTER AND HERBERT K. CARTER, OF THE STAFF OF THE MODERN HOSPITAL

[Continued from November issue, p. 375]

EXPENSE ANALYSIS AND BUDGET SYSTEM

EXPENSE ANALYSIS

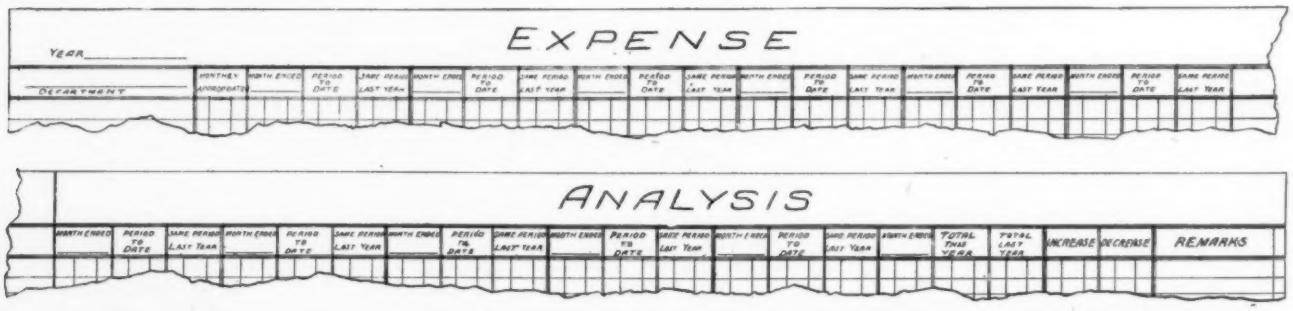
THE Charge Register shows the departmental expenses in a general way. Headings are given in this book for the principal groups of expenditures, as heretofore explained, so as to facilitate the transfer of the individual expenditures to the Expense Analysis sheets.

The Expense Analysis (Form 22) is for the purpose of showing the detailed allowances and expenditures of the departments in such a manner that comparisons from month to month and for the previous period and year may be made. It also shows how the expenditures of each department are to be distributed.

A sheet is made out for each department as follows:

1. Administration.
2. Wards.
3. Private rooms.
4. Emergency ward.
5. Dispensary.
6. X-ray.
7. Laboratories.
8. Social service.
9. Ambulance.
10. Housekeeping.
11. Steward's department.
12. Laundry.
13. Training school.
14. General house and property.
15. Heat, light, and power.
16. Corporation.

The following examples show in detail how these sheets are made out:



Form 22. Expense Analysis. Above, left-hand page; below, right-hand page; with binding margin to be added at right-hand and left-hand sides, respectively. Actual size, 19¾ by 11½ inches.

EXAMPLE No. 1—ADMINISTRATIVE

Item	Appropriation for month	Expense present month	Expense period to date	Expense same period last year
Controllable expense:				
Salaries and wages—				
Superintendent and assistants	$.....	$.....	$.....	$..... ....
Purchasing agent	....	....	....	....
Clerks	....	....	....	....
Supplies—				
Stationery	$.....	$.....	$.....	$..... ....
Printing	....	....	....	....
Postage	....	....	....	....
Miscellaneous	....	....	....	....
Telephone and telegraph—				
Telephone service	$.....	$.....	$.....	$..... ....
Operators' salaries	....	....	....	....
Tolls	....	....	....	....
Telegraph service	....	....	....	....
Legal expense	....	....	....	....
Furniture and fixtures	....	....	....	....
Miscellaneous expense	....	....	....	....
Total controllable expense	$.....	$.....	$.....	$..... ....
Uncontrollable expense:				
Corporation expense	$.....	$.....	$.....	$..... ....
General house and property	....	....	....	....
Total	$.....	$.....	$.....	$..... ....
Charge percentage to wards				$..... ....
Charge percentage to private rooms				....
Charge percentage to laundry				....
Charge percentage to dispensary				....
Charge percentage to general house and property				....
Charge percentage to ambulance				....
Charge percentage to training school				....
Charge percentage to x-ray				....
Charge percentage to steward's department				....
Charge percentage to housekeeping				....
Charge percentage to emergency ward				....
Charge percentage to social service				....
Charge percentage to laboratories				....
Total (as above)				$..... ....

NOTE.—All of the expenses of the Administrative Department are charged to departments by percentages determined by the Superintendent and his assistants.

EXAMPLE No. 2—WARDS

Item	Appropriation for month	Expense present month	Expense period to date	Expense same period last year
Controllable expense:				
Salaries and wages—				
Head nurses	$.....	$.....	$.....	$..... ....
Nurses	....	....	....	....
Dietitian	....	....	....	....
Etc	....	....	....	....
Etc	....	....	....	....
Etc	....	....	....	....
Supplies—				
Medical	....	....	....	....
Surgical	....	....	....	....
Furnishings	....	....	....	....
Miscellaneous	....	....	....	....
Total controllable expense	$.....	$.....	$.....	$..... ....

Uncontrollable expense:				
Charge from administration	$.....	$.....	$.....	$..... ....
Charge from steward's department	....	....	....	....
Charge from housekeeping	....	....	....	....
Charge from general house and property	....	....	....	....
Charge from laboratories	....	....	....	....
Charge from x-ray	....	....	....	....
Charge from laundry	....	....	....	....
Total	$.....	$.....	$.....	$..... ....
Number of patient days treatment				$..... ....
Cost per patient per day				....

Analysis sheets for emergency ward, social service, dispensary, and private rooms are made out in this same way.

EXAMPLE No. 3—X-RAY DEPARTMENT

Item	Appropriation for month	Expense present month	Expense period to date	Expense same period last year
Controllable expense:				
Salary of operator	$.....	$.....	$.....	$..... ....
Salary of assistants	....	....	....	....
Supplies:				
Plates	....	....	....	....
Tubes	....	....	....	....
Miscellaneous	....	....	....	....
Total controllable expense	$.....	$.....	$.....	$..... ....
Uncontrollable expense:				
Charge from administration	$.....	$.....	$.....	$..... ....
Charge from housekeeping	....	....	....	....
Charge from general house and property	....	....	....	....
Total expense	$.....	$.....	$.....	$..... ....
Charge percentage to wards				$..... ....
Charge percentage to private rooms				....
Charge percentage to emergency ward				....
Charge percentage to dispensary				....
Total (as above)				$..... ....

The sheets for the laboratories, ambulance, training school, housekeeping, and laundry will be made out very nearly like the above example.

EXAMPLE No. 4—STEWARD'S DEPARTMENT

Item	Appropriation for month	Expense present month	Expense period to date	Expense same period last year
Controllable expense:				
Salaries and wages—				
Salaries for supervision	$.....	$.....	$.....	$..... ....
Cooks	....	....	....	....
Scullions	....	....	....	....
General kitchen help	....	....	....	....
Miscellaneous	....	....	....	....
Dairy products—				
Milk	....	....	....	....
Cream	....	....	....	....
Buttermilk	....	....	....	....
Cheese	....	....	....	....
Eggs	....	....	....	....
Butter	....	....	....	....
Meat, poultry, and fish—				
Beef	....	....	....	....
Mutton	....	....	....	....
Pork	....	....	....	....
Ham	....	....	....	....
Poultry	....	....	....	....
Game	....	....	....	....
Fish	....	....	....	....
Shellfish	....	....	....	....

Groceries and provisions—				
Flour and cereals				
Bread and crackers				
Coffee, tea, cocoa, and chocolate				
Yeast, baking powder, etc.				
Confectionery and ice cream				
Sugar, molasses, and syrups				
Etc.				
Fruits and vegetables—				
Potatoes				
Carrots				
Apples				
Oranges				
Etc.				
Miscellaneous—				
Ice				
Table Water				
Coal				
Supplies				
Repairs				
Total controllable expense	$.....	$.....	$.....	$..... ....
Uncontrollable expense:				
Share of administrative expense	$.....	$.....	$.....	$..... ....
Share of general house and property				
Total expense	$.....	$.....	$.....	$..... ....

Charge percentage to administration	$..... ....
Charge percentage to wards	
Charge percentage to general house and property	
Charge percentage to private rooms	
Charge percentage to emergency ward	
Charge percentage to dispensary	
Charge percentage to social service	
Charge percentage to ambulance	
Charge percentage to housekeeping	
Charge percentage to laundry	
Charge percentage to training school	
Charge percentage to x-ray	
Charge percentage to laboratories	
Total (as above)	$..... ....

EXAMPLE No. 5—GENERAL HOUSE AND PROPERTY

Item	Appropriation for month	Expense present month	Expense period to date	Expense same period last year
Controllable expense:				
Salaries and wages—				
Mechanics	$.....	$.....	$.....	$..... ....
Elevator runners				
Etc.				
Repairs—				
Furniture and fixtures				
Elevators				
Etc.				
General supplies				
Total controllable expense	$.....	$.....	$.....	$..... ....
Uncontrollable expense:				
Heat, light, and power	$.....	$.....	$.....	$..... ....
Charge from administration				
Charge from steward's department				
Insurance				
Taxes				
Rent				
Miscellaneous				
Charge for depreciation				
Total expense	$.....	$.....	$.....	$..... ....

Charge percentage to administration	$..... ....
Charge percentage to wards	....
Charge percentage to private rooms	....
Charge percentage to emergency ward	....
Charge percentage to dispensary	....
Charge percentage to x-ray	....
Charge percentage to laboratories	....
Charge percentage to steward's department	....
Charge percentage to laundry	....
Charge percentage to training school	....
Total (as above)	$..... ....

EXAMPLE No. 6—HEAT, LIGHT, AND POWER

Item	Appropriation for month	Expense present month	Expense period to date	Expense same period last year
Controllable expense:				
Salaries and wages—				
Engineers	$.....	$.....	$.....	$..... ....
Firemen	....	....	....	....
Supplies—				
Fuel	....	....	....	....
Oil	....	....	....	....
Waste	....	....	....	....
Miscellaneous	....	....	....	....
Repairs	....	....	....	....
Total controllable expense	$.....	$.....	$.....	$..... ....
Uncontrollable expense:				
Charge from administration	$.....	$.....	$.....	$..... ....
Charge from steward's department	....	....	....	....
Total expense	$.....	$.....	$.....	$..... ....

Charge to general house and property.

The following illustration will show the value of this book:

The Superintendent, in looking over the Expense Analysis, discovers that the amount spent for rubber sheeting is in excess of the monthly allowance and more than was allowed for a certain period. It is plain to be seen that purchases of this article on such a scale will exceed the Budget allowance before the expiration of the year. It is an easy matter for him to make an investigation to determine the cause of these excessive purchases, and make the curtailment necessary to conform to the allowance of his Budget.

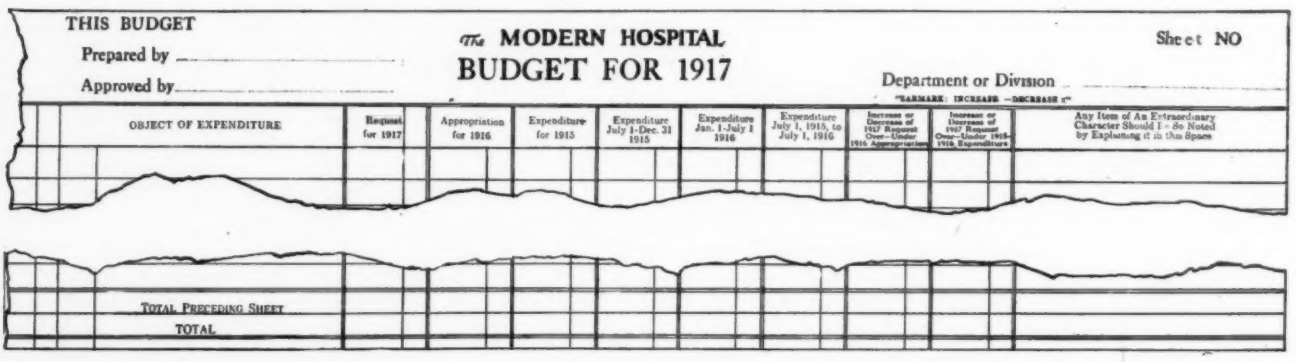
The Expense Analysis furnishes the means of locating excessive expenditures in any department.

The first step in stopping a leak is to find its location. It is a part of the purpose of this book to locate these leaks, so that the Superintendent may apply the proper remedy.

The Expense Analysis also furnishes a basis from which to estimate future needs of the institution. It is from the data furnished by these sheets that the Budget is made up.

THE BUDGET

The Budget is a list of estimate needs for a given period based on a record of past expenditures.


THIS BUDGET
Prepared by
Approved by
The MODERN HOSPITAL
BUDGET FOR 1917
Sheet NO
Department or Division
"BARMARK: INCREASE —DECREASE +"
OBJECT OF EXPENDITURE
Request for 1917
Appropriation for 1916
Expenditure for 1915
Expenditure July 1-Dec. 31 1915
Expenditure Jan. 1-July 1 1916
Expenditure July 1, 1915, to July 1, 1916
Increase or Decrease of 1917 Request Over—Under 1916 Appropriations
Increase or Decrease of 1917 Request Over—Under 1916 Expenditures
Any Item of An Extraordinary Character Should Be So Noted by Explaining it in the Space
TOTAL PRECEDING SHEET
TOTAL

Form 23. Budget. Actual size, 15 by 11½ inches. Bound book, with binding margin to be added at left-hand side.

The usual method of preparing a Budget is to make a list of the past expenditures of each department for a given period and estimate the coming requirements by the future policy of the institution as approved by the Governing Board.

The Expense Analysis gives a comprehensive record of past performances, but this is not sufficient in making up a Budget. There are other factors to be considered. The advance or decline in prices of supplies and material, additions to the institution, or any change of the administrative policy likely to affect the revenue or expenses of the institution should be taken into account.

The importance of a comprehensive record of past expenditures can be appreciated in preparing a Budget. A properly kept Expense Analysis means the difference between a guess and an estimate in making future plans for an institution.

The Expense Analysis (Form 22) is designed for an institution using the Budget system. It will be noted that a monthly expense allowance is made for each department. This estimate is copied from the Budget.

The Budget as shown (Form 23) is designed to present the request for the coming year, the appropriation, if any, for the current year, and the expenditures for the past year. The expenditures from July 1 to December 31 during the past year and from January 1 to July 1 of the current year, and the totals of the two, are shown in separate columns. This enables the executives to see at a glance the expenditures of these periods.

In municipal hospitals the Budget system is almost universally used, and, as a rule, they must live within the bounds of their appropriation. Private and quasi-public institutions will find the Budget system to be not only a benefit in anticipating expenses, but, if referred to at stated periods, will notify the management through the Expense Analysis when their expense are exceeding their appropriation. By being served with this advance notice, the administrators are enabled to solicit funds before bills are accumulated, before discounts are lost, and before the efficiency of the institution is hampered by a lack of a sufficient working capital.

The summary sheets of the Budget and an example of the sheets from the various departments will be shown in succeeding chapters.

[To be continued.]

Superintendents Report to Treasurer for Month of_____191__

DR. 1. Superintendents Account with Treasurer			CR
Total from Previous Months		Total from previous Months	
Grand Total Current Expenses		Hospital Earnings	
Capital Expenditures		Cash from Treasurer	
		Balance	
Total		Total	

2. Expenses from Special Funds		Superintendent's	3. Trial Balance		4. Balance Sheet	
F		Cash				
U		Accounts Receivable	Footings Only		Balance Only	
N		Material				
D		Supt's A/c with Treas				
S						
		Advance Pay'ts by Patients				
		Overpayments by Patients				
		Unclaimed Wages				
		Accounts Payable				
		Supplies				
		Discounts				
Total		Total				

Form 24. Superintendent's Monthly Report. Actual size, 12 by 9 inches.

LITTLE JOURNEYS TO PLACES AND PEOPLE WORTH KNOWING

The Sixth Little Journey—To the Nurses' Home of Mount Sinai Hospital, New York —Every Effort Made to Give the Best of Nursing Education and Home Life to Pupil Nurses

By MARGARET J. ROBINSON, R. N., Field Editor, The Modern Hospital, Chicago.

THE standards of Mount Sinai hospital need no description or introduction. The hospital was established in 1852 and at that time had a bed capacity of 28 patients. When its new buildings and various departments are completed it will have a capacity of 750 and will be, with one exception, the largest voluntary hospital in the world.

Nurses in training at Mount Sinai may have contact with ninety thousand patients in a year in the hospital and dispensary services. Over a thousand nurses have graduated from this school. A large percentage of them occupy positions of responsibility in the nursing field. To have graduated from Mount Sinai is a mark of prestige for any young woman in the nursing profession.

The school maintains about two hundred nurses at present and thirty-six supervising graduates, exclusive of those in the social service department. A registry for graduates has over three hundred nurses on its list; more than four thousand calls for their services were received during the year of 1917.

Special arrangements have recently been made whereby women from approved colleges and universities will receive a credit of nine months on the three years of training in the school. A number of scholarships are awarded to nurses in training. These scholarships include one of $500 for a course in the department of nursing and health of Columbia University, New York, recently established by the president of the training school, and a number of annual awards of $100 in gold to students for excellence in scholarship, deportment, and bedside nursing.

These scholarships serve a threefold purpose. In the first place they give, in some cases, an actual financial assistance to ambitious young women who need more funds to carry them through their training; secondly, they are an impulse towards finer scholarship and a greater devotion to detailed practical work in the school, and lastly they encourage more student nurses towards further post graduate nursing education.

There are several other capitalized funds for the use of the school. One, known as the pleasure fund, provides for theater parties and dances in the winter months, and has purchased the best of victrola records. A library fund furnishes newspapers, current magazines, current literature and reference books. A sick nurses' fund sends sick

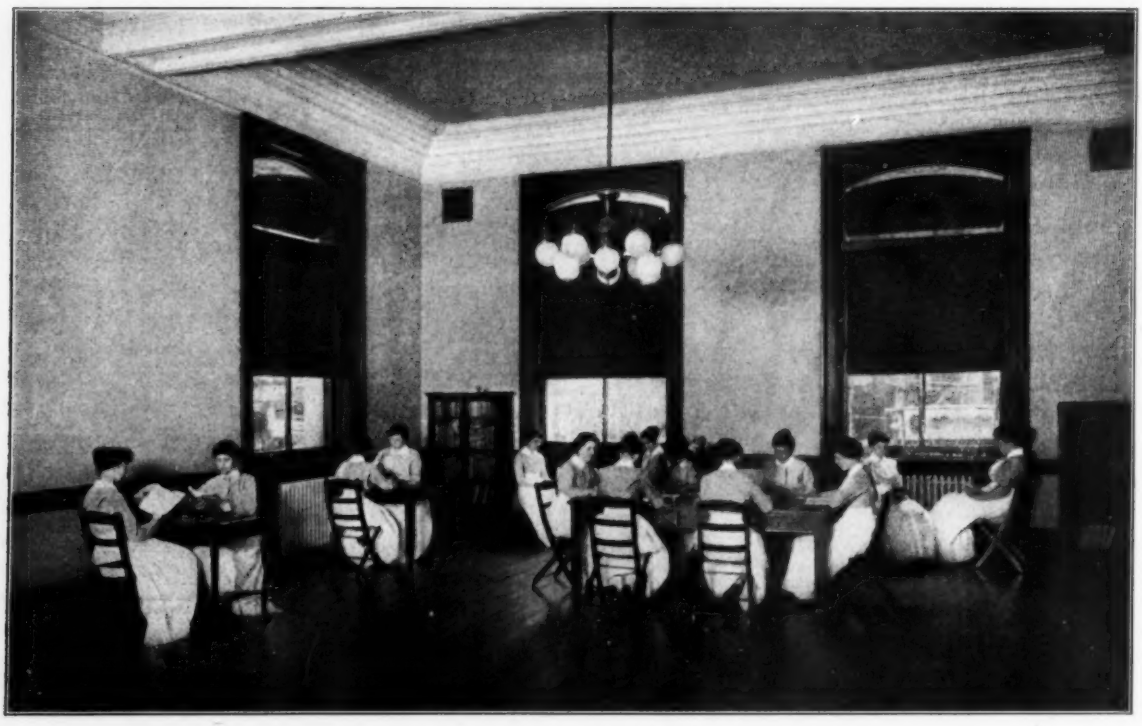


Fig. 1. Probationers' study hour.

Fig. 2. A class in practical nursing.

and weary nurses for needed rest under proper and happy conditions. One fund provides for the renovation and new and attractive furnishings for the home.

Even the bouquet of orchids and lilies of the valley worn by the superintendent of the training school at commencement time and the violets tied with purple ribbon worn by the graduating class are given by a generous-hearted trustee. Other men from this very human and kindly board of directors and their auxiliaries furnish the big Christmas tree and candy and gifts, and concert and theater tickets and moving picture shows.

The nursing section of the Mount Sinai Base Hospital unit No. 3, now in service in France, was formed in the training school. This unit is complete in its supervision and personnel and was recruited without thought of the sacrifice of the hospital. The staff, hospital, and training school gave their best. On January 15, 1917, there were twenty-one enrolled Red Cross nurses in the list of graduate assistants; sixteen of these were released for army service.

The educational advantages of the school of nursing are as good as can be secured. The hospital fortunately has sufficient funds to meet all the requirements of present day methods of nursing education, an administration which believes thoroughly in advanced nursing education, and a competent force for the supervision and instruction of the training school.

Miss Elizabeth Greener, the principal of the school, has the complete cooperation of the officers of the training school board, and of Dr. S. S. Goldwater, the director of the hospital, in all things which will tend to advance the best methods of nursing education, the health protection and social welfare of the nurses in training.

The training school has scientific and practical laboratories for instruction in pathology, bacteriology, materia medica, and dietetics. There is thorough nursing instruction in medicine, surgery, pediatrics, anatomy, chemistry, nursing ethics, principles and practice, obstetrics and gynecology, special practice and social welfare.

A demonstration room constantly adds to its furnishings and equipment anything and everything necessary to practical and thorough demonstrations in nursing art and practice. This room contains various supply closets, plumbing, beds, and practically all the material needed in daily use for the care of patients. All junior classes of student nurses receive thorough instruction here before they are permitted to take part in the direct care of patients.

To meet the present great need of nurses, as large classes as the school capacity will accommodate are being admitted. In September of this year there were fifty-eight entered, in three sections, in order to avoid the confusion which might occur in the handling of so large a number of probationers at any one time. The first group consists of twenty pupils for the regular three-year

course; all are high-school or college graduates. The second group will be the first section of the Vassar School of Nursing students, twenty in number, all graduates of the college. The third group will be the second section from the Vassar school.

When I visited the nurses' home of the Mount Sinai Hospital I came out into the wide entrance hall just as the night nurses were reporting for duty, all ready to go over to the hospital to take up the work where the day force left it. They were a pretty sight, trim and orderly and cheerful. A little later the day force returned to the home, strolling in by twos and threes, and soon the great cheerful living room at the left of the hall was filled with friendly groups.

The great size of the room and the large number of student nurses in it didn't seem to detract from the homey atmosphere of the place at all. A beautiful picture hung over the wide mantel shelf. On one wall was a tapestry of wonderful weave and coloring; on another were unobtrusive frames holding original letters written in faded brown ink, one a discharge from the army of the United States, signed "George Washington," and the other an officer's commission, signed "Abraham Lincoln."

The picture of the room was completed by big comfortable lounging chairs and settees, a grand piano and victrola, soft shaded library lamps, a huge floor rug of vivid coloring, and in the midst of it all, girls everywhere, young and pretty and light-hearted, and sedate and studious, all in spotless blue and white. May God love them all and bring them trained hands and heads and luck and happiness!

At the desk in the hall was the house mother, the nurses' chaperon and social companion, a charming gray-haired woman, a graduate nurse, who looked thoroughly the part she was there to play. Behind her was a roster board with colored wooden pegs which showed at a glance where each nurse was at the time. One color meant that the nurse whose name was underneath was on duty in the hospital, a peg of another color showed that she was off duty or on vacation or ill or taking her maternity training in another hospital.

The duties of the house mother are numerous, and all necessary in the scheme of things to protect and mother the girls in the home. She is on duty from six o'clock in the evening until two o'clock in the morning. She greets the day nurses when they come to her desk to change the keys on the roster board. She directs the new arrivals and sees that they are made comfortable. She gives out the permissions for late leave and checks them when the nurses return to the building.

The house mother receives the visitors, and when ten o'clock comes, arranges for the closing of the house and the noiseless return of those

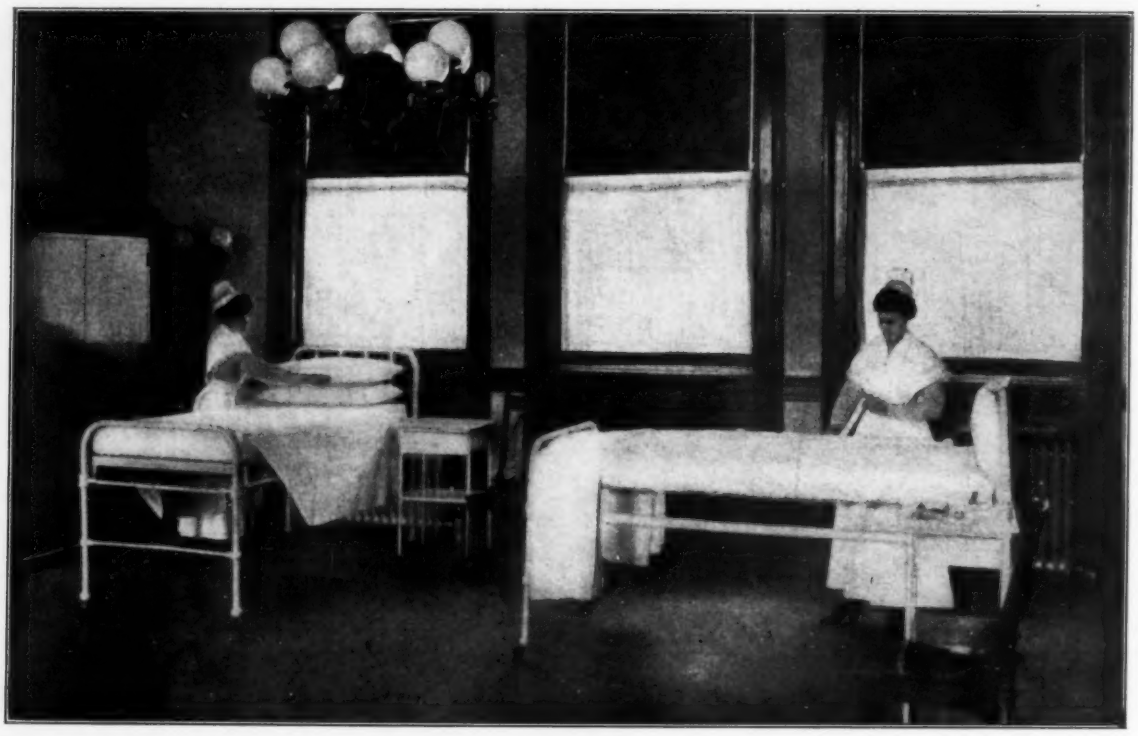


Fig. 3. The demonstrating room. Bed-making.

who have had a good time outside of the building. At eleven o'clock she makes rounds, and knows that each nurse is accounted for, and visits the roof, too, to see her children who are sleeping out of doors. Then she returns to the main floor and

The serving of the night supper is only one of the illustrations of the spirit in which the nurses at Mount Sinai are cared for, and the thoroughness with which everything is planned for their training and comfort.

Fig. 4. A corner of the nurses' home roof.

waits until all the nurses on duty have had their supper.

At two o'clock, if all is well, the house mother goes off to bed, and the night supervisor takes charge and after that the night watchman goes about every so often to see that all the children of the house are safe from harm.

A night housekeeper is on duty in charge of the serving of night suppers to the interns and nurses and employees of the night force. She has to assist her a cook and waitress and a porter.

The night supper served is a real meal and not a light lunch. It consists of hot meat and vegetables and all that goes with them. Things are so arranged that everyone on duty is relieved for this meal. The service begins at 10:30 p. m. Attractive trays are serviced to nurses on duty on isolated cases. Over three hundred nurses of the school and fifty to eighty special nurses are served in the dining room during the twenty-four hours. The dining room is cheerful and well cared for. On the side walls the brackets with electric candle fixtures have yellow silk shades on them, which soften and mellow the general effect.

The officers, the directors, and administrators of the Mount Sinai Hospital are of a race which as a rule does things well. Their hospitals in this country, wherever you find them, from San Francisco to New York and from Canada to the Gulf, are efficiently managed and stand distinct among themselves for a broad charity. To these men the home is part of their splendid religion. To them the education, the happiness and protection of the young girls in training are vital things. They are worthy of their trust.

Eugenics in Brazil

There is a eugenic society in the enterprising city of Sao Paulo, the first to be organized in that country. The object is frankly to improve the race and render it worthy of so grand a country. The subjects to be covered in this connection are the laws of heredity, the propagation of knowledge of eugenics and hygiene and the spread of education in general. This plan of instruction aims to inform the public as to the harm wrought by syphilis, alcoholism, tuberculosis, etc. Other activities are regulation of prostitution, prenuptial examination, and all steps which will diminish the birth rate of degenerates, idiots, etc. It is to be hoped that this patriotic movement will be taken up by other Brazilian states.—Brazil-Medico.

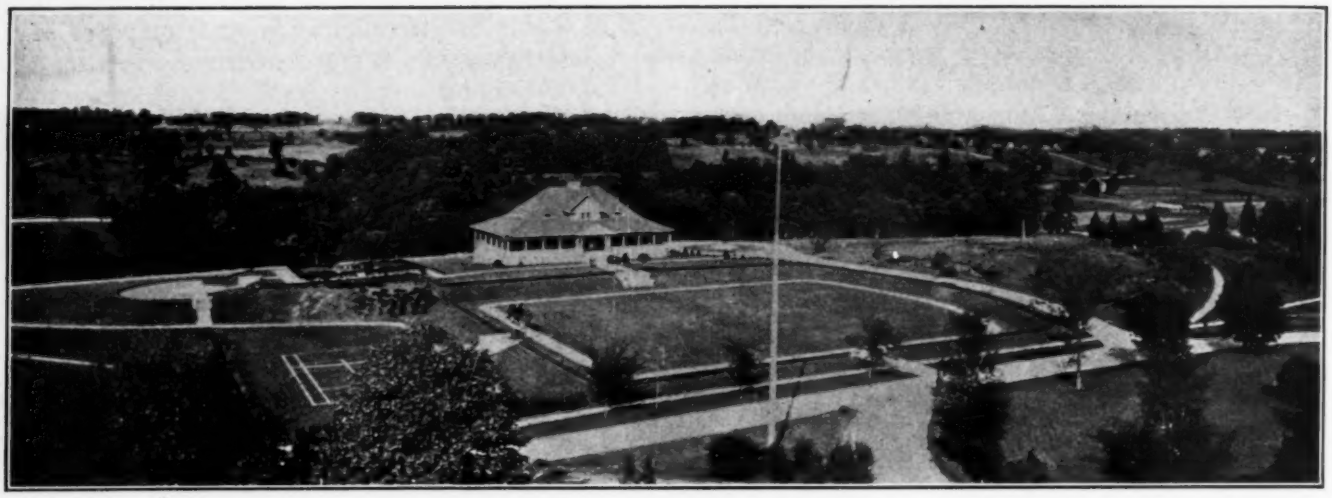


Fig. 1. Recreation hall of Sheppard and Enoch Pratt Hospital.

FROM OUR FIELD EDITORS' NOTEBOOKS

Two Mental Hospitals Where Occupational and Diversional Therapy Are Used—Study of Diversional Therapy at Sheppard and Enoch Pratt Hospital—Wide Variety of Occupations at Kalamazoo State Hospital

Sheppard and Enoch Pratt Hospital, Towson, Baltimore

There are few hospitals which enjoy a more beautiful situation than Sheppard and Enoch Pratt. The buildings, scattered over the extensive grounds on the wooded hills just outside of Baltimore, have more the aspect of a country estate than that of an institution for the care of the mentally disordered. As in many public parks, the trees and shrubs bear labels on which are printed plainly, in each case, the common and botanical name. This work, however, was done, not by the gardeners, but by a patient, who, though ignorant of botany when she took up the task as a labor of love, has herself gained mentally and physically and has also added to the pleasure of other patients.

Dr. Edward N. Brush, the superintendent, is a strong believer in the therapeutic value of occupation in mental disorders, and a wide variety of handicrafts are practiced by the patients for their value in diversional therapy. Dr. William Rush Dunton, Jr., assistant physician at Sheppard and Enoch Pratt, is known to all who are interested in occupational therapy, through his publications on the subject and his activity in the National Society for the Promotion of Occupational Therapy. The telephone operator at Sheppard and Enoch Pratt, by the way, is a blind girl, who is said to perform her duties very acceptably. The switchboard work of an institution is said to be very suitable for the blind, who are subject to fewer distractions than workers who can see.

Dr. Brush has promised THE MODERN HOSPITAL an article on the work which can be done by an endowed hospital for mental patients in moderate circumstances.

The Kalamazoo State Hospital (Mental)

The industrial reeducation and instruction in the arts and crafts in the Kalamazoo State Hospital, Kalamazoo, Mich., show very definitely the therapeutic value of these methods in the care of the mentally ill, and, although the work is always considered primarily for its therapeutic value, it has proved to be one of the greatest factors in the efficiency and the economic administration of this state institution.

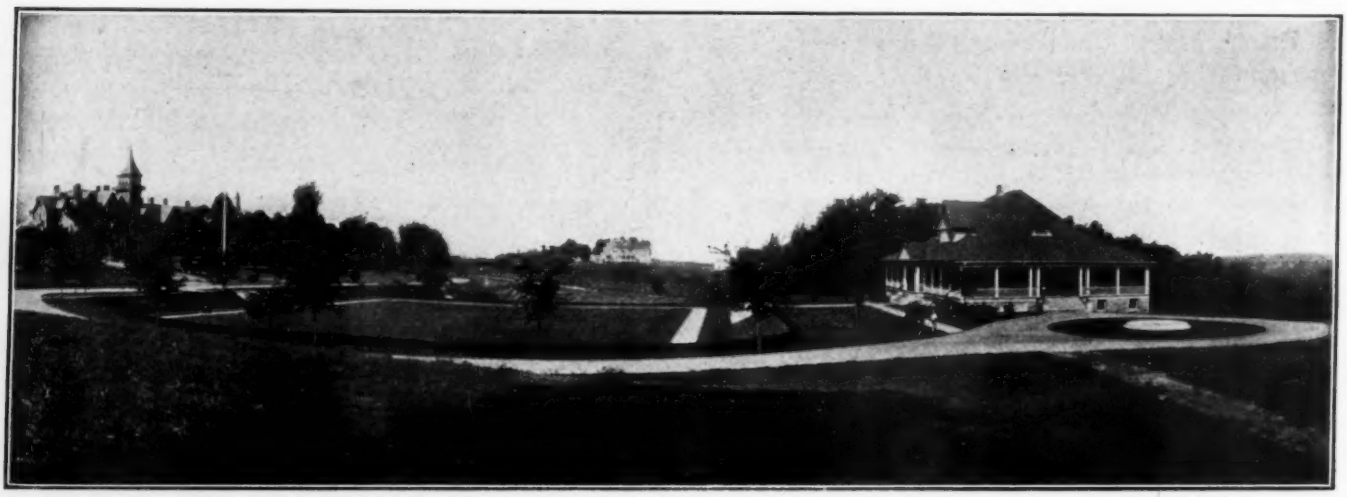


Fig. 2. Another view of the recreation hall (in the foreground, to the right), with the superintendent's residence in the distance (center), and the women's building at the left.

The patients are carefully and scientifically graded, both as to their previous social and industrial condition and as to their mental and physical capacity. They are given something to do, something to think about, and, if their cases are capable of improvement, their minds are led, as a child's would be led, from the kindergarten to a higher grade, and then still higher, until at last they may gradually find themselves again.

Women patients who were so low in the mental scale that they had to be shown how to braid rags in order to learn to braid their own hair have been patiently and gradually taught to make beautiful things that any of us would be glad to have in our homes, with the result that both their mental and physical strength has grown while they were doing it.

Reclamation is considered everywhere in the industrial building, and nothing is wasted that can be used again. Hats for the patients and the employees who do the farm work are made here, from the unraveled straw matting which comes around chests of tea. Socks which refuse further mending when they come from the laundry are unraveled and woven into socks again.

Old clothes, beyond all hope of mending and repair, are cut up into rags and woven into attractive and durable rugs. The benches on which the workers sit while weaving are made by other patients in the carpenter shop. The two hundred and eighty-five rugs needed to furnish the new building added to the hospital for attendants' quarters have all been made in the weaving room.

Fig. 4. The Kalamazoo State Hospital, with some of the working patients in the foreground.

In the upholstery department are made all the mattresses used in the hospital, and chairs and couches are upholstered. Part of these rooms are given over to looms which weave canvas and a very good grade of linen toweling, made from the flax which is also spooled here.

Solid and artistic chairs and tables for use in the institution and all furniture repairs are made in the cabinet maker's room, and cane seating done. The patient who is most expert in caning learned the trade here.

In the cannery, where a machine makes the tin cans used, are put up the fruits and vegetables grown by the farmer patients. In this way the patients and employees may have better grade of canned goods and more of them than the institution could otherwise afford to give them.

Fig. 3. A dairy worker and some of his animals.

Laundry bags are woven, fish-net fashion, out of heavy cord. Waste burlap which comes into the storerooms around bags and packing cases is woven into brown rugs, and decorated with artistic designs by using thrums, the mixed wool waste of different colors which is sorted out into the separate colors, spooled, and woven into the rugs by the patient students. The thrums are used, too, for warp and woof. On Donegal looms they make really beautiful window curtains and draperies for use in the hospital buildings, the kind that would cost a goodly sum.

In another room a number of women patients were running motor sewing machines and making their own aprons and dresses. Some were able to sew only the straight seams, but there were others who had advanced far enough to cut and fit the clothing. The pieces of the blankets destroyed by excited patients are quilted together and covered with canvas. This makes an indestructible blanket to use for violent cases.

In the shoeshop, new shoes are made and the shoes worn by patients and employees are kept in order as long as they are worth saving. A master-tailor supervises the work done in the tailor shop, and this is one place in the industrial building where some trade knowledge on the part of the patient is an absolute necessity; men who have had no previous experience can do only the very simplest work here.

The hospital has its own farm and its own dairy, and under the supervision of a skilled farmer and a skilled dairyman, the work is all done by the patients who are best suited by experience, or who need out-of-doors work, and great improvement has resulted.

The end-results of the industrial reeducation show 33 percent of improvement in patients who can undertake the work and 22 percent discharged from the care of the hospital.

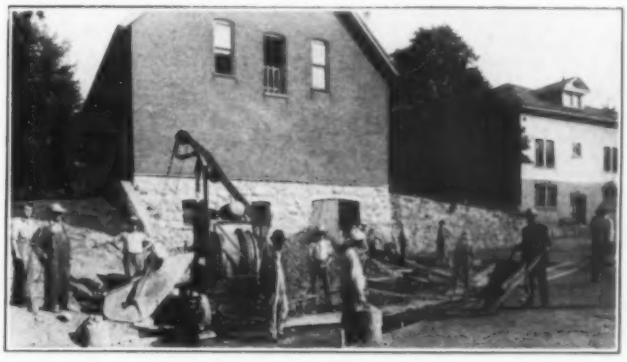


Fig. 5. Laying pavement at the Kalamazoo State Hospital.

The MODERN HOSPITAL

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Our Opportunity in Belgium

If the nations to which remains only the breath of life in a few broken or starving bodies can spend that breath in giving thanks for deliverance, what should be the thanksgiving of this nation—still rich, powerful, unscathed by the horrors of invasion, and lightly touched by the suffering and loss of war? Should it not take the form of a thank-offering? We owe to those countries that bore the brunt of the war a debt which it will take us long to repay. Particularly do we owe an immeasurable debt to the little nation whose epic stand held back the German war machine for six fateful weeks and saved the day for Western civilization.

"What can America do after the war by way of beginning to pay the debt of gratitude she owes Belgium?" This question was addressed by a member of the staff of this magazine to Captain Dr. René Sand, official delegate from Belgium to the meeting of the American Medical Association last summer. When Captain Sand's reply was published in THE MODERN HOSPITAL only two months ago[1] one scarcely dared to think of the time when we might claim the privilege of helping Belgium—after the war.

"The first few months of peace," wrote Captain Sand, "will decide our future fate; either we shall slip down to haphazard ways and hasty, patched-up solutions, or we shall rise to a system of competence, efficiency and constructive reform. At that moment our convalescent nation will need material help, personal help—nurses, social workers—and advice. . . .

"We could imagine no greater service to our country and no better way of perpetuating the brotherhood which has grown up between both nations than a permanent American foundation in Belgium. Its triple purpose would be to foster research, to offer information on reconstruction problems, and to maintain an educational campaign aimed at raising the standards of life in Belgium."

As Captain Sand points out, ravaged Belgium has yet a rare—perhaps a unique—opportunity—the opportunity to make a fresh start. Rightly used, this means possibly the achievement of progress that might have been unattainable on the basis of the past. For the United States to be invited to participate in this fruitful experiment is a high honor. Is it not also a great privilege for the hospital profession to do its share—which should be an important one—in the working out of this great idea? What pride and satisfaction might we not feel in seeing Belgium the experiment station of civilization—the seed plot wherein an opportunity for germination might be afforded to promising reforms which find no room to unfold in the overgrown soil of other countries! Would not this be a

A Merry Christmas? The blood-stained page has too lately closed. Except to children and the thoughtless, merriment will return but slowly. A joyful Christmas—the most memorable the world has known for many centuries—this we can celebrate with thankful hearts before we turn our faces toward the New Year and the beginning of that future which we have glimpsed hitherto only through rifts in the battle smoke — that future whose significance it will take us perhaps years to grasp. The new day means the realization of some of humanity's age-long dreams—it does not mean the pleasant ease of old. Courage, ardor, vision, and self-denial—if we needed these in the dreadful times that are past, we shall need them ten-fold more in the soul-searching times before us. If you will have a wassail toast, let it be: To the great days to come! May we rise to their measure!

[1] Sand, René: How America May Help Belgium After the War, October, 1918, XI, 256.

magnificent opportunity to make health what it should be, the cornerstone of the social edifice, and to build a hospital system from which should radiate enlightenment and health education for the people? We could scarcely ask a greater privilege than to be associated in such a work.

How could this be accomplished? That is for Belgium to tell us. The first step which THE MODERN HOSPITAL would like to see taken would be the formation of an American commission to study the Belgian situation and to learn the needs and aspirations of the Belgians. The members of the commission should be practical men—and women—for it must not be forgotten that, in a country which has lost so many of its men, women must perforce play an important part in reconstruction. They should be practical people, we have said, realizing meanwhile that he who is called the dreamer may be the most practical man, and that among the most practical qualities for a commission of this kind are sympathy, tact, constructive imagination, and infinite patience with and interest in the problems which its members are to study. It is not time yet for organizers and administrators; indeed, the best administrators in the world might be the worst possible choice for such work. This is a task which calls for the open mind rather than the practised hand.

If the idea is once given responsible sanction and entrusted to suitable commissioners to carry out, opportunity should be afforded to the American people to contribute toward the expense of its fulfillment. It should be the pleasure, as well as the duty, of every American citizen to give for this purpose according to his means. We should be not merely paying a portion of our debt, but also taking advantage of a golden opportunity to do constructive work which, in the end, would surely be for the benefit of the whole world, ourselves included.

Some Advantages of Institutional Membership*

When the new plan of organization for the American Hospital Association was discussed at the Atlantic City meeting, it became evident that its advantages required some explanation. "I am a member of the association," said one and another superintendent in effect; "when I attend its meetings, I represent my institution; when I go home, I give my hospital the benefit of what I have learned during the sessions. What do we gain by acquiring institutional membership?" Possibly there was even a positive misunderstanding—a feeling that institutional membership was a device to get more from the hospitals, rather than a means whereby the American Hospital Association might render its members more efficient service. The suggestion that hospitals would find it to their own advantage to take out institutional membership even seemed to arouse a certain resentment, the impression evidently being that this advantage would be secured only by discriminating against those hospitals which had not institutional membership. It is therefore worth while to study carefully the actual bearings of the plan.

Institutional membership is going to put the association in a position to render services worth many times the institutional membership fee—services which the hospitals need now and are going to need more and more as time goes on. The weight and authority of the association will be increased, and it will be able to exert greater influence before state and national legislative bodies, if it can display credentials as the official representative of the hospitals, its constituent members, than if it appears merely as an association of individuals connected in various capacities with the hospitals. Now, in the reconstruction times ahead of us, the financial and other interests of the hospitals are going to constitute a serious problem, demanding study of the incidence of taxation and of legislation affecting hospital welfare from other points of view. An officially accredited spokesman will be able to command consideration and avert ill-considered legislation which might prove disastrous to the hospitals.

If the hospitals come to the support of the plan, the proceeds from the institutional membership fee, wisely used, will enable the association to give the smallest of its constituent members expert service the cost of which would be prohibitive to the individual hospital. The benefits of this expert service will accrue proportionately more to the small, weak institution than to one that is large and prosperous. Let us suppose, for instance, that the increased revenue from institutional membership fees permits the association to engage, on annual retainers, high-grade legal counsel, an equally high-grade hospital consultant, and a publicity expert. Then, if a hospital at Jenkins Four Corners or Last Chance wishes to know its liabilities under the terms of a contract or its rights as a beneficiary of a will, it will have the right, as a constituent member, to bring the problem before the association and to receive an authoritative opinion, the monetary value of which may be many times the cost of institutional membership. Again, the same hospital has perhaps been running behind in spite of the best ef-

*The Bulletin of the American Hospital Association, page 472, further describes the institutional membership plan, and page 71 of the advertisement section contains an application blank.

forts of the superintendent and staff. An expert opinion is needed as to the treatment necessary to put it on its feet. A competent hospital consultant would charge $100 a day and expenses. The Jenkins Four Corners hospital can not pay anything like that sum. Application to the American Hospital Association, however, brings out the possibility of having the association's hospital consultant make a tour of inspection of the Jenkins Four Corners hospital and four or five others on the same route, at a cost to each hospital only of its proportionate share of the consultant's traveling expenses. Let us further suppose that one of the hospital consultant's findings is that the community does not understand the hospital or the service the hospital is prepared to render, and hence does not support it. A publicity campaign is indicated. The superintendent's training qualifies her to run the hospital, but not to advertise it. Professional "promoters" are costly and of dubious value. The American Hospital Association, however, will furnish, without cost, attractive publicity material, prepared by its publicity expert for use in local newspapers. Or, if it is desirable to base a publicity campaign on the local situation, the association's publicity expert will plan such a campaign at nominal cost.

These are merely a few illustrations of the otherwise unattainable benefits which hospitals might secure through a properly financed association. Others will readily suggest themselves —a laboratory for testing hospital supplies, an information exchange, etc. Experience will suggest many other ways of effective cooperation through the medium of the reorganized association.

How many of these benefits will accrue to the hospital world at large, without distinction of membership? A great many of them; certainly there should be no attempt to confine them to members by discrimination against non-members. The association is bound to lose the very weight and influence which constitute the chief reason for institutional membership if it allows itself to become the representative, not of American hospitals as a whole, but merely of hospitals which see fit to pay ten, twenty-five, or fifty dollars for their respective institutional memberships. Rather, it should be the effort of the association to work for the good of the hospitals without regard to membership—to make non-member hospitals feel that the American Hospital Association is their friend, with their interests at heart.

What, then, are the inducements to institutional membership? Why should not a hospital remain an outsider if it can, without paying a membership fee, derive many of the benefits from the reorganized association? That difficulty, we believe, will take care of itself. Hospitals will naturally be reluctant to ask the help of the association on their individual problems unless they are making the association some return for the service. When the value of the service is far in excess of the membership fee, it will be strange if many hospital boards hesitate after having the advantages of membership pointed out to them.

Finally, the individual hospitals are going to profit greatly by the increased attention to hospital affairs which institutional membership will demand of hospital boards, and the consequent promotion among trustees of interest in and knowledge of the principles which should guide hospitals and the standards by which they should be judged. Today, too often boards of trustees have no clear idea of the work and needs of the institutions with which they are connected or of their own relations with these institutions. One board may consider its duties ended with the raising of money for ends of which it has no clear conception; another may, through motives of mistaken economy, hamper the most valuable activities of the institution; and a third may interfere disastrously with the superintendent's management. Trustees may approve or disapprove the work of the superintendent without having any true criterion for such judgment. Institutional membership should be the means of bringing boards of trustees into closer relationship with their respective hospitals, so that they may be prepared to cooperate more efficiently and intelligently with the superintendents. It should become general practice for trustees, as well as for superintendents, to inform themselves of the trend of hospital progress by attending the meetings of the American Hospital Association. These trustees are generally able, progressive business men, who need only an insight into hospital principles to become most valuable aids to hospital progress. With their interest thoroughly aroused, the success of the American Hospital Association and of the individual hospitals is assured.

The War Industries Board and Hospital Supplies

We are requested by the section on medical industry of the War Industries Board to give publicity to several announcements which are of interest to hospitals.

It is suggested that the prospects for securing needed surgical supplies are now very much improved if the hospitals place their orders through the usual channels. For the guidance of the government, hospitals and physicians are urged to fill

out and return to the board inventories of their probable needs for the next six months, with indications of the articles that are difficult for them to secure.

The United States Railroad Administration has suggested that, in order to avoid congestion of transportation during the winter, hospitals assemble their supplies as early as possible. If any freight agent questions a hospital's right to have needed articles shipped, his attention should be called to circular C. S. I-A issued by the car service section, division of transportation, United States Railroad Administration, dated March 26, 1918. The present embargo by the American Railway Express Company is confined to shipments weighing five hundred pounds or more. If an express shipment of more than five hundred pounds which is desired for emergency purposes should be refused by the express company, statement of the fact should be made to Lieut.-Col. F. F. Simpson, chief of the section of medical industry of the War Industries Board. An effort will thereon be made to adjust matters satisfactorily.

The platinum section and the section of medical industry of the War Industries Board express appreciation of the hearty response made by physicians, dentists, and others to the call for scrap platinum. The governmental demand for platinum for making of explosives has been tremendously decreased in accordance with the curtailment of war activities, and it is therefore requested that no further scrap platinum be tendered to the government.

The Hospitals of Chile

Chilean hospitals became part of a unified system somewhat less than a year ago, and Chile seems in a fair way to work out a national hospital policy. This achievement is apparently the natural result of conditions widely different from any with which we are familiar. A country with a property-owning class, small but dominant, by virtue of intelligence and education, over a large, illiterate, and hopelessly indigent laboring class, naturally tends toward centralization. Add to this the fact that our neighbor to the south has but a single religious denomination to reckon with, and one may begin to appreciate some of the reasons for unfamiliar phenomena.

Chilean medical and hospital men are citizens of the world—eager and interested students of the progress of events in Europe and America. Their familiarity with people and institutions in the United States is rather surprising. The proceedings of the American Hospital Association, the American Medical Association and the American College of Surgeons are cited by writers in the official organ of the central council which controls the Chilean hospitals; the book by Hornsby and Schmidt on "The Modern Hospital" and the articles on the community hospital by Miss Barrett and Miss Jordan, published in this journal, are quoted as authoritative; and the Mayo Clinic, the Massachusetts General Hospital, the Ohio Valley General Hospital, Mount Sinai Hospital of New York, the new Bethany of Kansas City, and the Robert Packer of Sayre, Pa., are mentioned as exemplary.[1]

As will be seen by the article on the Chilean hospital system which appears on another page[2], these Chilean writers are keen critics of their own hospitals, which they do not hesitate to judge by the standards of the most advanced institutions elsewhere. (It is interesting to note, by the way, that when it comes to institutions for the insane, they find the most recent and the most advanced example of the agricultural colony for incurables, not in Europe or America, but in Buenos Aires, Argentina, which has a large and well-organized "Open-Door" colony.)[3]

Their criticisms, however, are not destructive or pessimistic. Every review of existing conditions is followed by practical suggestions for improvement. The pages of the *Revista de Beneficencia Publica* abound with outlines for model hospitals of fifty or a hundred beds, plans for the organization of dispensaries and outpatient services, plans for the organization of first-aid services in small cities, etc. The Chileans are convinced that the health conditions in their country form a serious obstacle to its progress; hence the energy with which they are addressing themselves to the solution of these problems. Centralization has its advantages as well as its disadvantages, and it may very well be that Chile will furnish some very interesting developments in the organization of hospitals and public health work.

Our Relations with Latin America

One of the duties which the United States must prepare to assume after the war is that of developing our natural relationships with the rest of the world and particularly with our neighbors in the Americas. We have not yet entirely freed ourselves from a certain provincial—not to say parochial—self-centeredness, which we must shake off if we are to play our allotted part in the reconstruction of the world after the war.

[1] Guzman, A.: Creación de Hospitales, Rev. de Benef. Pub., December, 1917, I, 403.
[2] Chapin, M. K.: The Hospitals and the Hospital System of Chile, p. 438.
[3] del Campo, M.: El Problema de la Hospitalización de los Enajenados, Rev. de Benef. Pub., November, 1917, I, 317. Lea-Plaza, H., and Fontecilla, O.: El Problema Nacional de la Hospitalización de los Alienados, ibid., 327.

We know too little about other countries—and particularly, about South and Central America. We have much to learn and not a little to teach. Are we ready to set about both tasks now that peace is here?

This question is addressed particularly to hospital people. As remarked in the preceding editorial, the hospitals of Chile (and probably the same thing applies to most of the other South American countries) are ready and eager for the best in ideas and products that Europe and North America have to offer. It is for us to realize that they have much to offer us in return. A civilization longer established on American soil than our own, of independent development, and heir to a civilization that is still older, must have much of interest and value for us. If our attitude toward our Latin American neighbors has ever been one of provincial condescension, we cannot too quickly realize its inappropriateness. The various American countries, already connected by many bonds of common interest, have certain joint health problems to work out together—for instance, the problem of international quarantine, discussed in this journal some years ago.[1] Without doubt, the experience of South and Central America will be of great value.

Hospital people in the United States have already developed cordial cooperative relations with Canada. Canadian hospital men and women are active and interested members of the American Hospital Association. Is it not time that the association signalized its interest in the rest of the Americas by holding a Pan-American meeting, which representative hospital and public health officers from South and Central America and Mexico should be invited to attend, for the purpose of explaining the desires and points of view of their respective countries? And should it not be the privilege and the duty of our most progressive hospitals to throw open their doors to Latin American physicians and nurses who desire to learn what we can teach of hospital administration and training school methods? Should we not collect more first-hand information with regard to medical, hospital, and nursing conditions in the countries to the south of us?

These are but a few of the angles from which this subject opens up vast possibilities. Are we to make the most of this great opportunity to knit our continent together? Or are we to let it slip by and see the rest of America looking, as of old, to Europe for inspiration and leadership? We can not too soon begin to consider this matter seriously.

[1] Plea for a Constructive Pan-American Quarantine, THE MODERN HOSPITAL, August, 1914, III, 106.

Hospital Service in Rural Communities

A most interesting and suggestive "Preliminary Report on Hospital Service in Rural Communities" has been prepared by the department of surveys and exhibits of the International Health Board of the Rockefeller Foundation. It is based on the 1890 morbidity statistics of the United States Bureau of the Census, on figures collected by the Metropolitan Life Insurance Company in surveys covering over thirteen thousand cases of sickness among a total population of over six hundred thousand, and on data collected by the State Charities Aid Association in 1913, through intensive surveys in Dutchess County, New York, covering an aggregate population of nearly twelve thousand and total cases of sickness numbering sixteen hundred.

The study indicates that the general sickness rate of the country, both rural and urban, is about 20.8 per thousand population, but that the rural rate somewhat exceeds the urban. No attempt is made to estimate in terms of money the economic loss occasioned by sickness among the employed population, but it is computed that, in the state of North Carolina alone, over six million working days are lost by the male population and considerably over seven million by the female population. The average duration of sickness among the general population, including wage-earners, is found to be from six to twelve days a year, and from one-eighth to one-twelfth of a given group of wage-earners are every year disabled for work because of sickness.

The number of physicians available for care of the sick is much larger in the United States than in Europe. The population for each physician in this country is 582, a proportion which is approached nowhere in Europe. In the European countries tabulated, the proportion ranges from one physician for each 1,475 in Scotland, to one for each 7,865 in the [erstwhile] Russian Empire. The number of physicians in this country, contrary to general opinion, has increased but little in proportion to the population. There has, however, been an increase in the demand for medical service, owing to the broadening of the medical field and increase of intelligent public interest in the subject. There are only about half as many physicians to a given population in the country as in the city, the rural south having the poorest medical service.

In the field covered by the surveys of the Metropolitan Life Insurance Company 27.2 percent of the sick received no medical care whatever; 2 percent received dispensary care; 9.8 percent were cared for in hospitals; and 61 percent were cared for at home. Approximately the same pro-

portion is presented by the figures of the State Charities Aid Association. Another unfortunate fact developed by the survey of the latter organization is that 40 percent of the sick did not receive adequate care. Nearly half of those cared for at home, and 20 per cent of those cared for in hospitals had inadequate care, the insufficiency of hospital care being due chiefly to lack of social service and follow-up work.

Possibly the most important divisions of the study are those devoted to "Some Things That Need to be Known to Solve the Hospital Problem," and "How Some of the Information Needed to Solve the Community Hospital Problem May be Secured." "A hospital is not a thing of a day. It is intended to endure through many years and even generations." In working out an adequate hospital program, therefore, it is necessary that many things bearing on local conditions and the future general trend of sickness be known—death rate, wealth of population, increase or decrease in population of area to be served, social conditions, percentage of foreign group, character of industries and industrial diseases, prevailing type of general diseases, etc. Means by which fundamental data on these subjects may be collected are suggested, including study of the experience of existing community hospitals, experiment in the construction of typical community hospitals through which a close study of community health conditions might be made, and community surveys carried on through rural home visiting nurses, who possess peculiar facilities for gathering information, particularly on the point of the proportion of cases that can be cared for at home and in the hospital.

We wish that these excellent suggestions might be put into effect. The way to construct a hospital program is from the ground up, not from the steeple down—in other words, by a careful and intensive study of community conditions as a preliminary to any plans for hospital construction or organization. The principle advanced in this report that the hospital problem is merely one branch of the general problem of organizing the community for the conservation of health and the cure of disease, moreover, is surely a sound one. One of the most important pieces of work that we can imagine would be a survey of health needs and resources of the country sufficiently comprehensive to serve as a basis for a working program including the organization of health associations, visiting nursing services, dispensaries, group diagnostic centers, and hospitals. We hope that the "Survey of Hospital Service in Rural Communities" is but the preface to a wider and more thorough survey of the general problem.

The Death of F. S. Bunn

The American hospital profession has sustained a severe loss in the death, on November 3, of F. S. Bunn, of Youngstown, Ohio. For the past ten years Mr. Bunn had been superintendent of the Youngstown City Hospital, which, under his management and largely owing to his untiring devotion and exceptional executive ability, attained a high standing among the hospitals of the country. As a personal friend has said, "He was a man who did his very best and knew well how to make successes out of the commonplace things." The manner of his death, as well as his life, attested to his unpretentious heroism. He died of an attack of influenza, culminating in pneumonia; and the fatal issue is ascribed by Mr. Bunn's associates to overfatigue due to his efforts in combating the epidemic, as well as to the fact that he insisted that the limited supply of anti-influenza serum available at the hospital be used to inoculate all the nurses before he would consent to receive a dose himself.

F. S. BUNN.

Names of Hospitals Employing the Eight-Hour Day Desired

THE MODERN HOSPITAL would like to have the names of all institutions in which the eight-hour day has been introduced. Any remarks as to the results of the change will also be of interest. The courtesy of those sending in information will be greatly appreciated.

Four things come not back: the spoken word; the sped arrow; time past; the neglected opportunity.—Omar Ibn Al Halif.

HEALTH INSURANCE AND ITS RELATION TO HOSPITALS*

Favorable Conclusions with Regard to Health Insurance—Opportunity for Hospitals to Become Hub of System—Advantages to Be Received

By THOMAS HOWELL, M.D., Superintendent New York Hospital, New York City

In presenting this report to the American Hospital Association, your committee on social insurance believes that it will render greatest service if it confines its discussion to the place of hospitals in a system of health insurance. Sociologic aspects of the plan are only of general interest to a hospital association and, except as they indirectly concern us, may very properly be entrusted to the official state commissions which are making exhaustive investigations of health insurance in relation to public policy.

Simultaneously with the work of the health insurance commissions, some of the best medical talent of the country has been devoting careful thought to the problem and, from various angles, has reached conclusions favorable to health insurance. It is notable that the reasons given by several of the prominent leaders in American medicine for favoring health insurance relate to the development of the much needed spirit of cooperation and coordination in medical service. Dr. Alexander Lambert, president-elect of the American Medical Association, favors health insurance because it "offers the very scheme through which medicine is developing and through which it is bound to develop to the highest degree in the near future—that of group medicine."

Dr. Andrew R. Warner, superintendent of Lakeside Hospital, Cleveland, Ohio, also believes that individualistic practice of medicine must go, and prophesies that "health insurance will do much to bring the day when we must have something better."

Dr. B. S. Warren of the United States Public Health Service makes the further suggestion that "under health insurance the medical profession, in its efforts toward preventive medicine, will also receive outside aid," and cites foreign experience to show that health insurance will bring cooperation from "the public, the employers, and the employees, and will give to each a continuous stimulus for the prevention of sickness among the wage-earning population."

Others welcome health insurance because it will bridge the gap between the medical profession and many data now inaccessible. Dr. S. S. Goldwater, director of Mount Sinai Hospital, New York, one of the most earnest students of health insurance, says he favors "compulsory health insurance, because industrial conditions which are inimical to health can be most readily disclosed and most effectively dealt with under a scheme of health administration in which the insured workers are grouped mainly according to occupation."

Dr. Richard Cabot looks to health insurance for "an improvement in the treatment of wage-earners by private physicians because their diagnosis will be checked up by some one and because any check is better than none."

Perhaps none of these endorsements of health insurance will carry so much weight with medical men as the report of the British Medical Association, coming from a democratic country where health insurance has been actually tried out. The British Association sent a questionnaire to its members asking for criticism of the act and suggestions. They summarize their returns as follows:

"The degree of unanimity so far disclosed is somewhat remarkable. On a subject which five years ago was the most highly controversial that had ever been before the profession and which still, in some places, and everywhere in some of its aspects, excites argument, it is found (1) that many matters which at the beginning of the controversy gave rise to most apprehension have assumed a position of quite minor importance; (2) that the general system by which the state provides medical advice and treatment under the insurance scheme is in the main approved, and that criticisms have a tendency to concentrate on a comparatively few points which, though of great importance and indeed vital to smooth working, are, after all, matters of detail which ought to be capable of adjustment; (3) that there is a large body of opinion in favor of the extension of the health insurance system, both to kinds of treatment not at present provided for and to classes of persons at present excluded therefrom."

Without question, the war has given great impetus to health measures. Conservation of human life is no longer a luxury. It is an essential. The medical profession has risen to the emergency and has made significant contributions to the science of army sanitation and surgery. Reports from the War Department show that the physical fitness of the military forces is being maintained at a most gratifying standard and that there have been important achievements in the surgical and hospital care of men disabled in battle.

Conservation of civilian life is a close second in importance. What is being done for the military army should stimulate national interest in the adoption of health insurance laws to protect the industrial army upon which we must depend for munitions, ships and supplies. As the official commission on health insurance in New Jersey said in its unanimous report to Governor Edge, who approved its findings:

"We are told that the work of at least five persons in the industries is needed to sustain one man in the trenches. Many thousands, unaccustomed to peculiar occupational dangers, are entering industry for the first time. Women, with their greater susceptibility to sickness and with maternity functions to be considered, are now called into industry in rapidly increasing numbers. Increased use of unfamiliar trade poisons and the rapid expansion of industries are augmenting health hazards. The stress of industry in war is making increasing demands upon physical endurance. . . . As never before, we need now to conserve, for present and future generations, the health and physical vigor of our people. Furthermore, it is the duty of statesmanship to look beyond our immediately pressing needs to the period of reconstruction at the close of the war. We cannot afford to disregard the protective legislative inducements already offered to workmen by our keenest commercial competitors in Europe."

The Pennsylvania health insurance commission, also, in its preliminary report recently made public, makes the statement:

"In the present crisis, if ever, maximum output is imperative, and maximum output depends very largely on the efficiency of the individual worker. . . . If we are to equip and supply our army and feed our Allies and ourselves, and if we are to be ready for the great era of reconstruction which will follow the war, 100 percent efficiency for these workers at home must be our goal."

Health insurance as usually proposed includes cash benefits to make good the wage loss, and medical and hospital benefits to restore health. Compensation for wage loss is indispensable but, as Mr. Lapp, the director of investigations for the Ohio Commission, has ably pointed out, "the restoration of the physical man to working power must be the primary object" of health insurance. In restoration it can scarcely be questioned that hospital service will play a large part. Indeed, it is scarcely exaggeration to say that, if the hospitals are alive to their

* This paper was prepared as a report of the committee on health insurance of the American Hospital Association, to be read at the Twentieth Annual Convention, but, owing to Dr. Howell's inability to attend, it was read by title only.

opportunity, they should develop into the hub of the health insurance system. Considering the inspiring possibilities, it is nothing short of amazing that comparatively little attention has heretofore been paid to the place of the hospital in the health insurance plan.

Perhaps we are at fault. Some years ago Dr. Goldwater gave warning of what was to come, but we did not bestir ourselves. At that time he said:

"Workmen's compensation is just the beginning of the great movement that will result in the establishment here of sickness insurance of the kind already in existence abroad. . . . If there is ever to be a sickness insurance scheme . . . the beneficiaries of that scheme should be placed in a position where they will get the service required as part of the workings of the system itself, which means that the voluntary hospitals and dispensaries . . . must be incorporated into or affiliated with the system and not needlessly and expensively duplicated by the state."

Health insurance offers positive advantages to hospitals in increased revenues, wider fields for research, and immediate contact with all who need hospital care.

At the New York Hospital, which is located in an industrial district, we recognized early that proper handling of workmen's compensation cases would mean a substantial increase in our receipts. Our annual receipts from this source at the Fifteenth-Sixteenth Street Hospital, exclusive of fees turned over to our attending surgeons, were $15,065 in 1915 and $16,474 in 1917. Health insurance will have an even more marked effect on receipts. A large percentage of both hospital and dispensary free patients will automatically become pay patients. Of over two million days of treatment given by forty-six hospitals associated with the United Hospital Fund during the year 1913-1914, 60 percent were wholly free. Of 166,000 patients treated by hospitals reporting to the Pennsylvania State Board of Charities, 159,000 were either free or partly free, and over 800,000 dispensary patients paid in little more than $60,000. At the New York Hospital is was found that 79 percent of ward patients and 95 percent of dispensary patients would come under health insurance as pay patients. The probabilities are that these percentages are somewhat higher than would obtain in hospitals situated in non-industrial districts. They serve to suggest, however, the large possibilities for increased revenue under health insurance and tempt one to speculate in glowing terms of paid staffs and supplementary equipment!

The preliminary report of the Pennsylvania Health Insurance Commission states that "sixteen of the sixty-seven counties in Pennsylvania, some of them at considerable distances from better-supplied areas, have no hospital beds whatever and nine other counties have less than one per thousand population. For the entire state on the basis of the estimated population for 1918, they found the number of beds per 1,000 population to be only 2.9—scarcely more than half the generally accepted standard.

In California in 1917, where the official health insurance commission reported a need for 10,000 beds for wage-earners, 8,621 of the 11,066 beds were in private hospitals, most of which were beyond the means of wage-earners. Of the remaining 2,445 beds, a large number were in institutions rated "unsatisfactory" by the State Board of Charities.

In the Dutchess County, New York, survey of sickness, it was found that hospital treatment was secured by only 10 percent of the total 1,600 patients, whereas investigation showed that 28 percent of the cases could have been adequately cared for only in a hospital. In other words, nearly two-thirds of those who needed hospital care did not receive it.

It is worth noting here that the objection raised to health insurance by the secretary of the Associated Merchants and Manufacturers of New York State related to the cost. Necessary care under health insurance, he declared, perhaps without very careful computation, would require the expenditure of $100,000,000 more for hospitals alone to equip New York for this service. Members of our association scarcely need to be reminded that, despite an inadequate supply of hospital facilities to meet the needs of our population, under present conditions we have more hospitals than we can adequately support. The interests of the community are served better by a small number of well-supported hospitals than by a large number of impoverished ones. Until funds are available, hospital facilities should not be extended.

It is here that we may hope from health insurance a double-barrelled benefaction. Not only will the majority of our free patients become pay patients, and the majority of those at present unable to secure any hospital care whatsoever be enabled to become patients on a paying basis, but the hospitals will thereby be given funds with which to undertake long desired improvement and expansion.

This is all predicated on the assumption that we include hospital care in our health insurance plan. One of the great defects of the English law is that it makes no provision for hospital care. Accordingly, the hospitals are worse off than they were under old conditions. It seems hardly probable that we will repeat such a blunder. In fact, the development of adequate hospital facilities for wage-earners and their families, now so frequently forced into destitution by sickness, is one of the most beneficent features of universal health insurance as now proposed in many of the states.

Not only will health insurance supply funds with which to improve and expand hospital service, but it will measurably facilitate medical science. Automatically it will bring under hospital supervision larger numbers of patients from whom to deduce scientific observations. It is to be presumed that, within the scope of health insurance, all who need hospital care will demand it and that the prestige of the health insurance funds may be counted on to overcome certain prejudices against hospitals.

Health insurance will also have the welcome effect of bringing patients under hospital care with less of the delay which is now often fatal. It has been asserted that the average workman has not a single week's wages saved for the proverbial rainy day. Losing more than a few days' time is a serious matter for him. Accordingly, he does not surrender to sickness until he is actually compelled to do so. When he is furnished protection by means of health insurance, it is not so probable that he will hesitate to seek proper attention. Again, it seems safe to assume that the local funds will encourage early treatment to secure speedy restoration to health. How much this means will be seen when we consider how early contact with a disease facilitates the work of the physician.

Health insurance is not visionary. In the words of Col. Winford Smith, health insurance "will surely be with us before many years." It is for us to insist that the important function of the hospital be recognized. We must participate with employers and employees in the shaping of health insurance laws and in their administration after passage. Failure to do this in the case of workmen's compensation led to some unsatisfactory experiences which need not be repeated under health insurance if we do our duty. It is to our interest, in the best sense of the word, to lend our professional aid to the proper

working out of legislation that will meet the need of health conservation and sickness prevention in industrial communities. The health insurance system must be so organized as to offer to the hospital the fullest possible opportunity for useful development and expansion. Routine work should be left to general practitioners. Difficult or obscure cases should be sent to the hospitals. The hospitals, largely relieved of routine cases, will then be able to develop group medicine of a high order.

THE MEMOIRS OF A HEAD NURSE

VI. The Color Line—How a Southern Gentleman and a Camp Meeting Song Pacified Two Bad Niggers

Once in a while, up in the emergency department, we had a case brought in that was pretty hard to handle—for instance, the woman of the streets who had taken bichloride and fought like a tiger when we tried to pump out her stomach, and the Slav woman who wouldn't let us set her little boy's broken leg. But, as Mr. Kipling says, "that's another story."

One day the ambulance elevator came up with what sounded like a decided row going on on board. Two policemen brought out what they would call down south, a black man and a "yaller gal," the colored folks down there being known as "black niggers," "yaller niggers," and "white niggers," according to their tones and shades of complexion. Although these shades might vary in degree from the color of teakwood or mahogany to hand-polished walnut, birdseye maple or white enamel, they would still be niggers. The man was bleeding from several head and facial wounds; in fact, a portion of his scalp was scraping acquaintance with his nose, and his left eyelid was decidedly off the track it usually occupied. The girl was endeavoring to wrap up a badly slashed arm and hand in her petticoat, and both of them were putting up a pretty stiff fight. The air was blue with choice gutter talk; but, mumbled slowly in the soft southern negro dialect, it somehow seemed to lose its coarseness and sounded like the back talk of the end man at a minstrel show.

After considerable struggling, the pair were taken into the dressing room. The man was put on the table and the girl seated in a chair by the window. I tried to take the history required by the hospital and began with the girl.

"What's your name, and where do you live?"

"It doan' make no difference where ah live, case ah aint neber dar 'cept when ahm home, and ah aint neber home, an mah name's mah own bisness, an ah aint goin' ter hab no doctors puttin' no crazy patchwork stitches in mah hide, ner no starched nurses askin' foolish questions, an' you all better look out fo' dat boy, he's a bad nigger. He's got de razor in his boot what he used fo' to carve me. It ain't got de bleed wiped off yet. An', lady, I'se a bad nigger, too."

This didn't look very promising. One of the interns, who had been trying, with the help of the two policemen, to examine the man's wounds, heard the girl say "razor in his boot," and made a "bee-line" for the door.

"Good night," he said, "I'm not going to risk any razor cuts in my anatomy, thank you. You officers had better take these people to the jug, where they belong."

It seemed too bad to let them go without something being done for them, so I said, "Wait a minute, I'll go find Dr. Beauregarde. You know, he is a southerner, and maybe he can handle these people better than we can. We should at least get some dressings on them before sending them out again." Then I called for Dr. Beauregarde, one of the senior interns, and he came up, a big, good-looking chap, with snapping black eyes and a typical southern drawl. He sauntered in leisurely, as usual, smoking a cigarette.

"What kin ah do fo' you, little fo'lady of the cuttin' and tailorin' department?" he asked.

"Please, Dr. Beauregarde," I said, "these colored people won't let us examine their razor cuts or even tell us their names or addresses, and I hate to send them out again without doing something for them."

He motioned me to follow him with the history slip and, going over to the girl, said, "Nigger, what's yo' name?"

The girl answered meekly, "Elizer Jackson, boss."

"Oh, yes," I said, "E-l-i-z-a, Eliza."

"No, mam," said the yellow girl, "L-i-z-e-r, Elizer."

"And what's the black boy's name?" Dr. Beauregarde asked again.

And she answered, "Stoneall Jackson, dey jes calls him Stone fo' short."

In the meantime Dr. Beauregarde was scrubbing up preparatory to doing the necessary repair job on Stone, and the other intern was sewing together the slashes on Elizer's arm. She was, by this time, getting the secondary effects of the cheap whiskey with which she had filled herself before the fray, as well as of the hypodermic which one of the nurses had given to her under protest, and was in a tearful and religious mood.

Each time the sharp, curved surgeon's needle went through her dark skin she prayed, "Lord have mercy, Jesus have mercy," and both she and Stone had changed their gutter accent to a soft "Yeah, Massa," and a "Yeah, Missus" that sounded as if it was straight from a Mississippi river plantation rather than from the district of our big city where even the policemen were afraid to go alone at night.

Poor "Stone" was really suffering a lot, and Dr. Beauregarde, working slowly while he waited for the hypodermic and the local anesthetic to relieve his patient, started humming an old camp meeting song. Soon, from her chair, "Elizer" joined in with the rich contralto obbligato that comes naturally to the negro women, and, to our astonishment, Stone, from the head of the table, while his scalp was being patched together, began crooning a high nasal falsetto of strangely beautiful sound, almost like the twang of a ukelele, the whole blending in a primitive harmony that only the southern American negro knows how to produce.

This is what they were singing:

"Lovin' brother, the worl's on fiah
Doan' yo wan' God's bosom ter be yo pillow?
Doan' yer wan' ter lean on de Rock of Ages?
De Rock of Ages, cleft fo' me—"

The song had as many verses as you had relatives and continued with variations in the obbligato and falsetto to include lovin' brother and sister and mother and father until the relationship was completely exhausted, when it started on "lovin' brother" again. It was sung in 4-4 time and with a peculiar accent on the first beat of each measure.

By the time the song was finished and had reached all around the family and come back to lovin' brother again, Stone and Elizer were all repaired. We sent them to the wards for a few days to heal and heard later from Dr. Beauregarde, who had made them his especial charges, that he had discovered Elizer's grandmother and great-grandmother had been born on a Beauregarde plantation on a Louisiana bayou, and that he had successfully pleaded with the police court judge to let Stone and Elizer off, on a promise to be good.

DETAILS OF HOSPITAL CONSTRUCTION*

Hospital Construction Necessarily Specialized to Meet Hospital Needs—Some Details of Construction Which Are Important in Any Type of Hospital

By N. V. PERRY, Constructing Engineer, United States Public Health Service

While this paper is primarily intended to treat certain details of hospital construction developed by years of experience, study, and experimentation, I also desire to mention a few things not directly connected with these details.

War conditions have placed upon the government unusual and, of course, unforeseen demands for emergency hospital accommodations in which the Public Health Service alone has embarked upon a building program involving the expenditure of millions of dollars for hospital construction, much of which will necessarily be of a war emergency nature. For this purpose it has standardized certain hospital units affording the facilities most in demand in Public Service hospitals, and, while most of these buildings are of a temporary nature, it is essential to convenient and economical operation to introduce, wherever practicable, modern and up-to-date facilities.

Floor plans and details of construction of some of these buildings are shown in the accompanying illustrations for your general information and will give an idea of some of the details of construction to be mentioned later on in this paper. The buildings in plan show the proper coordination of facilities required by the Public Health Service in the care and treatment of its patients, consisting chiefly of the discharged personnel of the army and navy, who are beneficiaries of the War Risk Insurance Bureau under the Treasury Department, the sick of the merchant marine, and the injured civil employees of the government entitled to treatment under the provisions of the Employees Compensation Act.

Public Service hospitals differ in many respects from general hospitals where male and female patients are received, and from the older types of marine hospitals, due partly to the introduction of female nurses and to the treatment of diseases which, as an outgrowth of war conditions, demand extensive attention. They should not, therefore, be critically compared with the modern general hospital. They do, however, present some very good features which perhaps might be incorporated in a more permanent type of hospital, and if their exhibition throws new light, either on combinations of accommodations or details of construction, their presence here will be amply justified.

The Public Health Service constantly receives letters from various sections of the country, asking for information relative to proper design and management of hospitals adapted to almost every phase of hospital work for state, municipal, and private ownership, and is making an earnest effort to supply helpful information along these lines, the direction and scope of which are shown by Fig. 1.

The Surgeon General has now undertaken the establishment of a Division of Hospital Information for the collection, classification, and dissemination of information relating to hospital construction, equipment, management, etc., which shall have for its chief end the standardization of hospitals and shall make possible a more uniform system of management. The need of such a division has long been felt, and it is believed the Surgeon General's efforts in this direction will command the hearty cooperation of the American Hospital Association and the medical profession generally.

In securing such information, the Surgeon General will, of necessity, be obliged to depend on the very hearty and painstaking cooperation of various hospital and medical associations throughout the country, for in order to do this most wisely and effectively, it is important to supplement its knowledge of government hospitals with accurate information as to facilities and accommodations supplied in civil and other hospitals, for whatever purpose required. It must study the construction, equipment, and management of hospitals both large and small, particularly those located in sections of the country where climatic and local environment create conditions peculiar to themselves, all of which must be thoroughly analyzed if helpful data are to be secured and intelligent conclusions arrived at.

The Federal government has many millions of dollars invested in hospitals for the use of the Public Health Service alone, which are in many respects peculiar to themselves in that they have been designed almost exclusively for the reception of soldiers and seamen. At the time of their construction they were thought to be, and no doubt were, as well adapted for their purpose as could be devised; but the very rapid progress in medicine and surgery has rendered many of the requirements of even five years ago obsolete, and has made necessary expensive alterations, modifications, or additions to these plants in order to keep them even reasonably in line with modern hospital practice.

While there is no doubt that the future will see many more innovations, it is believed that from carefully compiled records of hospital practice and facilities, gathered from a broad field, it will be possible to say definitely what will best meet almost any given set of conditions in hospital design or arrangement, and so to coordinate each function and facility into a complete plant which will be so well-adapted for the purpose for which it is created that the future will see comparatively little need of expensive remodeling to keep them abreast the progress of medicine and surgery. It is also presumed the same will be equally true in regard to their management and operation, and results that will set new records in accomplishment, efficiency, and economy may be looked for in both of these directions.

Hospital requirements of today are as highly specialized as is the medical profession itself, some catering to one branch, some to another—and still others to all branches—of the medical profession.

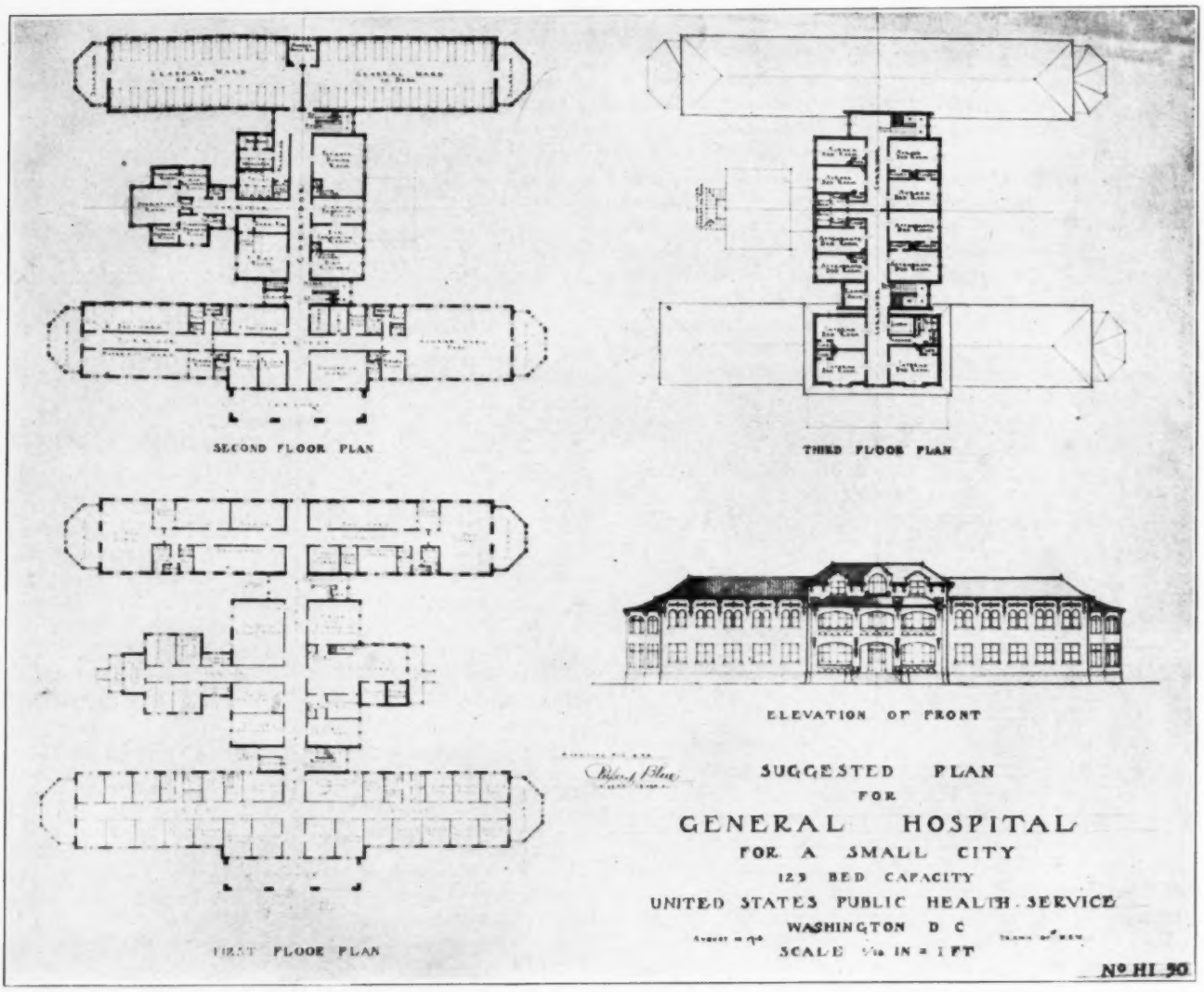
If efficiency and economy is the end sought in building a hospital for either general or specific treatment of patients, it is of the utmost importance that the designer should have an intimate knowledge not only of building construction, but also of the various activities peculiar to the particular types of treatment involved, as well as the proper coordination of facilities and accommodations that will best suit the requirements to which the hospital will be devoted, for the reason that the arrangement and grouping of facilities which might be ideal for a general hospital would not be at all suitable for one specializing on tuberculosis, psychiatry, etc., as each has peculiarities requiring facilities and grouping of accommodations peculiar to itself.

While there are many architects in this country who specialize on hospital construction and who have broad experience and opportunities for extended study, yet it is safe to say that the majority of the hospitals built today are the product of local architects, who, at best,

*Read before the Twentieth Annual Convention of the American Hospital Association, Atlantic City, N. J., Sept. 24-28, 1918.

translate into plans the ideas of local physicians and surgeons, supplemented by such knowledge as may be gained in visiting one or several nearby plants, with the result that there are many hospitals which do not prove to be economical or particularly adapted to the needs for which they were created, and which cannot be said to represent the best practice in hospital design.

While many of the government, state, municipal, and private hospitals throughout the country are ideally arranged, comparatively few of them show evidence of a knowledge or careful study of those details of construction which enhance the convenience, operation, and cleanliness of the facilities affected.



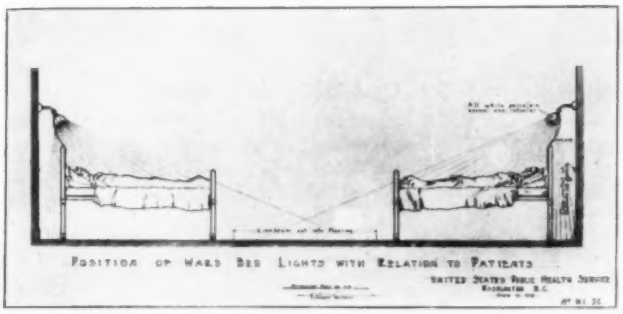
Hospital planning involves the supply of accommodations for the treatment of various diseases, each having peculiarities of its own, of which the physician and surgeon has a definite knowledge. The coordination of these accommodations and their grouping into a harmonious whole, however, requires that the architect also have an intimate knowledge of the activities peculiar to each set, their proper relation to each other, and a knowledge of those details of construction best adapted to serve each unit, in addition to building construction, if the hospital when completed is to be satisfactory.

While time will not permit lengthy discussion along the lines of hospital designing, I desire to discuss a few of the many details of construction which add greatly to the convenience, cleanliness, comfort, and efficiency of the hospital without regard to their relative importance. They are: ward and operating room lighting, decoration, general heating equipment, and floor construction.

WARD LIGHTING

In connection with ward lighting, it must be admitted that there are many forms of lighting equipment specially designed for this purpose, some good, some indifferent, and some bad, each of which is found in use. The general practice in our later type of marine hospitals provides for general ward lighting and indirect ceiling fixtures, with large and small lamp on separate switches. The small lamps, to be used at night, furnish a dim light, but sufficient to see that all is well without disturbing the sleep of patients. The larger are used for general illumination at other times. Wall lights are also provided, one over each bed, for local use. These latter are so placed as to be conveniently operated by the patients, and so shaded that the rays fall over the bed area only, but in such a way that the patient whose bed is lighted cannot look directly at the lamp while lying in any normal position and is totally out of the range of vision from adjoining beds (Fig. 2). These wall fixtures are wired on a separate circuit and are operated by the patient under regulations prescribed by the hospital. They also cooperate with the bedside call

system to indicate the bed from which the call originated. For illuminating operating tables, the Public Health Service has adopted the cluster system with specially constructed reflectors which focus the light rays over the entire table area (Fig. 3). The lights are wired on two circuits from entirely separate cabinets in order to

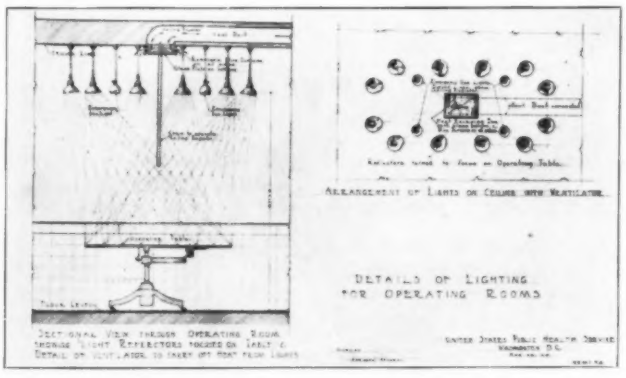


reduce to a minimum the danger incident to a burned-out fuse. Piping for incandescent gas lights is also installed, as a further precaution. The illuminating unit is ventilated to carry off the heat generated by the lights, which adds materially to the comfort of the room. Wall outlets are provided for attaching portable, operating-room-light fixtures or other electrical appliances.

Another important item is the decoration of the various rooms, and the materials to be used for that purpose. The scheme of decoration should depend largely on the illumination both natural and artificial, and the end sought should be to create cheerful surroundings for patients, with color effects best adapted to purely professional activities, such as operating, x-ray rooms, laboratories, dark rooms, etc. A standard color scheme has been devised for all hospitals of the Public Health Service, and a special mixture of paint specified, both of which have proven exceptionally satisfactory and efficient.

HEATING

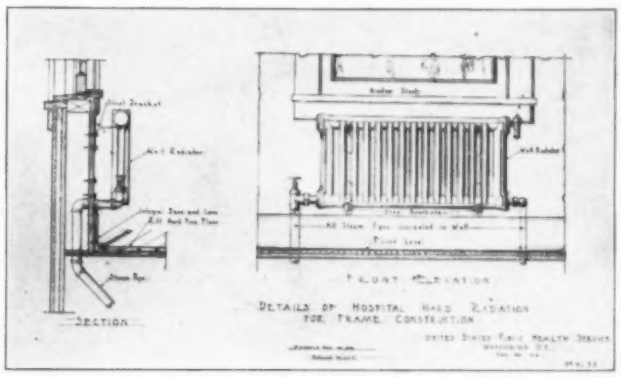
The most objectionable feature of hospital heating in general practice is that of heating with return pipes for radiators passing through the floor so close to wall as to make it inconvenient, if not impossible, to clean the floors and baseboard around them thoroughly (Fig. 4). This has been obviated by the arrangement for the temporary wood frame buildings being constructed as a war


ARRANGEMENT OF LIGHTS ON CEILING WITH VENTILATOR
DETAILS OF LIGHTING FOR OPERATING ROOMS
UNITED STATES PUBLIC HEALTH SERVICE

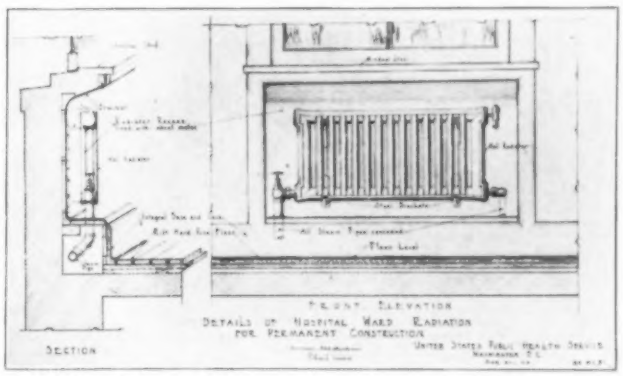
measure, and Fig. 5 shows the arrangement for those of permanent construction. You will notice that there are no pipes passing through the floors. Obstructions for cleaning have thus been avoided, a neater appearance of the rooms obtained, and, in the permanent buildings, much floor space saved without in the least affecting the efficiency of the heating system.

FLOORS

There is perhaps no detail of hospital construction more important than the composition and care of its floors. Based on careful and extended study of flooring of various materials, the following conclusions are arrived at: Non-absorbent materials such as marble, terrazzo, germanic tile, etc., are ideal for all baseboards, and certain floors such as public rooms, halls, operating and surgical dressing rooms, laboratories, x-ray rooms, sterilizing and toilet and service rooms (the latter term being used to indicate kitchens, dining rooms, diet rooms, etc.). Plastic floors have been widely experimented with



and have been found satisfactory for baseboards and certain other purposes, if properly constructed. Pressed cork tile makes an ideal floor for certain rooms, but for wards nothing has been found superior to a well-laid rift hard pine floor, which, when finished in its natural color and properly smoothed, treated, and waxed, presents a very attractive appearance, wears well, and is easy under foot. Cork tile also makes a very satisfactory floor, but is very expensive in cost and too somber in color for cheerful effect. Linoleums over wood or other material make a pleasant floor to walk on, but it is very difficult to keep the joints tight together, or the strips



tight to the floor over an area of any considerable size, though for runways, in halls and in the aisles in the center of wards, it is very attractive and useful, particularly when let in flush with the surrounding floors, as will be noted in Fig. 4.

In closing, let me say that the Public Health Service has considerable data on these and many other subjects, which it will be glad to supply upon request. The Surgeon General will also appreciate contributions in connection with hospital construction, care, and management, which when received will be carefully analyzed, filed, and made available to those desiring such information.

BULLETIN OF THE AMERICAN HOSPITAL ASSOCIATION

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308 Anisfield Building, Cleveland, Ohio
Monthly Bulletin issued from the Executive Office,
308 Anisfield Building, Cleveland, Ohio
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Institutional Membership

To the Trustees and Managers of American and Canadian Hospitals:

The American Hospital Association at its last convention became a real association of hospitals with the institutions themselves as the constituent members. Every hospital and institution for giving medical service should at once complete its membership. The importance and need of nation-wide hospital organization was never so apparent as today.

Our hospitals have become more than a charity or a means of giving medical and nursing care to the sick; they have become educational institutions, training men and women for many fields of usefulness; they have become institutions to promote social welfare; they have become important factors in the broad movement to lessen human suffering and loss, the movement often called "Public Health," which is rapidly gaining impetus and importance. It is the duty of every institution to crowd forward to the extreme of usefulness and the front rank of progress. To this end, universal and general thought and deliberations upon common problems, common work and common aims are essential, and isolation under the wisest of local boards of trustees or managers is a handicap upon service and progress.

Hospitals are now making their place in the institutional organization of society—with border lines all around their field of work. There are necessarily many disputed points and there must be ways of organization, procedure and relations with other institutions which are better than other ways. Concerted action is necessary to determine and fix anything.

It is the plan of the American Hospital Association to organize hospitals into one homogeneous force which can be used to promote progress in the work of the institutions and protect the past accomplishments and positions attained. It is the purpose to form a body which can speak for hospitals with all the power the institutions can assemble. The need of such has been demonstrated many times by legislation which has failed utterly to consider the viewpoint or the possibilities of hospitals, although the work of hospitals was a most important factor in carrying out the purpose of the law. The need is also demonstrated in many other ways.

There is every reason to believe that there will come to hospitals the same benefits which have come to every other industry, principle, or purpose which has united all in a common work or of a common mind into one force, acting in harmony, with a dignified and definite means of expression. There is every reason to believe that the new organization will bring to the individual hospital workers more benefits than the old.

For the AMERICAN HOSPITAL ASSOCIATION,
ANDREW R. WARNER,
President.

Plans for making institutional membership effective in the association are now being carried out. With the thought that the hospitals now represented in the association will be among the first to make application for this new membership, return postal cards have been mailed to them. The only information desired through the use of these cards at this time is the name of the hospital, the name of the president of the board of trustees and his address for purposes of correspondence. It is realized that some hospitals—municipal, county and other types—are not governed by a board of trustees. In such instances, as indicated on the card, the name and address of the department head or other official to whom communications about institutional membership should be addressed is requested. A prompt response to these communications is asked. As fast as replies are received, a letter addressed to the president of the board of trustees or other official, signed by the president of the association, will be mailed with an application blank to each hospital. A number of informal applications for institutional membership have already been received. All applications will be placed by the secretary in the hands of the membership committee which has just been appointed by the president as follows: Dr. John M. Peters, Superintendent Rhode Island Hospital, Providence, Rhode Island; Mr. H. E. Webster, Superintendent Royal Victoria Hospital, Montreal, Canada; Rev. Maurice F. Griffin, St. Elizabeth's Hospital, Youngstown, Ohio.

Application Blanks

Institutional membership application blanks have been printed and are being mailed to hospitals. Application for institutional membership must be made on these blanks only. The old form of application for personal membership will be continued for the present.

A copy of the institutional membership blank is printed below. It gives a general idea of the form of application and the nature of the preliminary data required for the consideration of the membership committee. It is printed only for purposes of information. It cannot be used as an application blank. A blank form to be used for this purpose will be found on advertising page 71.

COPY OF
THE AMERICAN HOSPITAL ASSOCIATION *INSTITUTIONAL MEMBERSHIP* APPLICATION BLANK

Date.....

Note—(This application must be signed by the President of the Board of Trustees or other official representing the governing body of the hospital. The rest of the blank should be filled in by the Superintendent, who should sign his or her name in the space provided.)

To the Executive Secretary,
American Hospital Association,
308 Anisfield Building,
Cleveland, Ohio.

.....being an institution duly qualified
(Name of hospital or dispensary)
for institutional membership in the American Hospital Association, hereby makes application for such membership in the Association and submits the necessary preliminary date for consideration to the Membership Committee.

Check for $..... in payment of the amount required by the Constitution for initiation fee is enclosed, the same to be returned if application for membership is rejected.

.....
(Signature of President of Board of Trustees or other official representing the governing body of the Hospital.)

.....
(Address for correspondence.)

(See opposite side for initiation fee, membership dues, and other information relative to Institutional membership contained in the constitution and by-laws.)

PRELIMINARY DATA FOR CONSIDERATION OF THE MEMBERSHIP COMMITTEE

Classification of Hospital

Organization
Governmental (Federal, State, County or Municipal).....
Religious?.....Church affiliated with?.....

Incorporated for profit?.....Incorporated not for profit?.....
Private?.....
When established.....When and where incorporated.....
Type of Hospital Work
(Please indicate whether General.....Children's.....
Maternity..... Tuberculosis..... Contagious.....
Other special .....
Total number of beds in hospital.....
Out-patient Work
Do you conduct a free dispensary?.....Do you conduct pay clinics?.....Do you send physicians from your dispensary to treat patients in their homes?.....

REPORT OF WORK DONE LAST FISCAL YEAR

Hospital Patients	No. of Patients	No. of days Treatment
Pay patients	.....	.....
Part-pay patients	.....	.....
Free patients	.....	.....
Public charges ..... (Accepted by county, city or township)	.....	.....
Totals	.....	.....

Pay patients are those for whom at least the cost of their care is paid.
Part-pay patients are those for whom only part of the cost of their care is paid.
Free patients are those for whose care nothing is paid.
(This classification was adopted by the American Hospital Association at its 19th Annual Convention.)
No. of visits to dispensary..... No. of visits to pay clinics.....
No. of visits made by physicians from your dispensary to patients in their homes.....

EDUCATIONAL ACTIVITIES

Medical Education
Does your hospital have university or medical school connections?....
If so, what connections and with what university of medical school?
.....
No. of interns..... Duration of service.....
Do you have resident physicians and surgeons supervising the work of interns?..... No.....
Nurse Education
Have you a nurses' training school?.....No. of years of course ..... Minimum entrance requirements.....
No. of pupil nurses..... No. of graduate nurses employed in hospital..... Is your training school recognized by the state?..... Name of Supt. of Nurses.....
Other educational activities
Training of dietitians.....
Training of anaesthetists.....
.....
.....
(Name of Superintendent)
Date received .....
Date referred to Membership Committee.....
Action of Membership Committee.....

Membership Committee

DR. JOHN M. PETERS, Supt. Rhode Island Hospital, Providence, R. I.
MR. H. E. WEBSTER, Supt. Royal Victoria Hospital, Montreal, Canada.
REV. MAURICE F. GRIFFIN, St. Elizabeth's Hospital, Youngstown, Ohio.

Constitution and By-Laws American Hospital Association

(AS ADOPTED AT THE ANNUAL CONVENTION, SEPT. 26TH, 1918, ATLANTIC CITY, N. J.)

ARTICLE I

The name of this Association shall be "The American Hospital Association."

ARTICLE II

The object of this Association shall be, to promote the welfare of the people so far as it may be done by the institution, care and management of hospitals and dispensaries with efficiency and economy, to aid in procuring the cooperation of all organizations with aims and objects similar to those of this Association; and in general, to do all things which may best promote hospital efficiency.

ARTICLE III

Section 1. The membership of this Association shall be—

A. Institutional.

Any corporation or association organized for the promotion of public health or for the care or treatment of the sick or injured shall be entitled to membership subject to the following:

Applications for institutional membership shall be addressed to the Executive Secretary in writing, signed by a duly authorized representative of the corporation or association; they shall be referred to the Membership Committee and the applicant shall become a member upon receiving the approval of the majority of the Membership Committee and upon the payment of the initiation fees as follows: Hospitals with a capacity of less than 100 beds shall pay ten dollars; those from 100-250 beds, inclusive, shall pay twenty dollars; all over 250 beds shall pay thirty dollars; all other organizations eligible to membership shall pay ten dollars.

Constituent Institutional Members shall be entitled to appoint as their representatives in the Association any person or persons who are eligible to active or associate membership in the Association, and of the number so appointed no more than three, including the Superintendent, shall have all the privileges and authority of active personal members and shall be so designated, and others so appointed shall have the privileges of associate personal members.

B. Personal.

Active personal members shall be those who at the time of their election are trustees or superintendents, or assistant superintendents, of hospitals, or members of the medical staffs of hospitals, however such officials may be designated. Any person once an active personal member may continue such membership so long as the rules of the Association are conformed with.

Associate personal members shall, at the time of their election, be heads of any executive, administrative, or educational department of a hospital, other than as designated in Section 2, or contributors to, or members of, any association or board, the object of which is the foundation, maintenance or improvement of hospitals or the promotion of organized charities for the improvement of health. Associate personal members may hold office, but shall not have the right to vote at meetings of the Association.

Applications for active or associate personal membership shall be in writing, addressed to the Executive Secretary, and shall be endorsed by one or more members of the Association. They shall be referred to the Committee on Membership; and the applicant shall become a member upon receiving the approval of a majority of said Committee, and upon payment of an initiation fee of five dollars for active and two dollars for associate membership, which shall cover the dues payable at the next convention of the Association after election.

Section 2. Upon attaining any of the offices designated in Section 2 an associate personal member may become an active personal member by completing the payment of the dues for active personal members as provided in the By-Laws.

Section 3. Honorary personal membership after approval of the Membership Committee may be suggested at any session of the Association by any member for any person who by reason of public or private service, or for any other reason, should be entitled to such recognition; and such person may be elected an honorary personal member by a majority vote of those present at any subsequent session of the Association.

Honorary personal members shall have all the privileges of active personal members, except voting at meetings of the Association. They shall be exempt from the payment of dues.

ARTICLE IV: OFFICERS

Section 1. The officers of the Association shall be a President, three Vice-Presidents, an Executive Secretary, a Treasurer, and a Board of Trustees as herein provided.

The Executive Secretary shall serve as Secretary of the Board of Trustees.

Section 2. The above officers, other than the Board of Trustees, shall be elected at each convention, shall assume their duties at the close of the convention, and shall serve until the close of the convention next succeeding, or until their successors are regularly elected and installed.

ARTICLE V: TRUSTEES

There shall be a Board of five Trustees, which shall have charge of the property and financial affairs of the Association, and shall hold title thereto under the name of "Trustees of the American Hospital Association." The President and Treasurer shall constitute two of said Trustees, and one Trustee shall be elected annually, at the convention, to serve for three years, excepting that in 1916; one of said Trustees shall be elected for one year, one for two years, and one for three years. Trustees shall serve until their successors are elected.

The Board of Trustees shall, always subject to the vote of the Association, have general control and management of the business of the Association, and may appoint and fix the salaries of such officers and agents as it may deem necessary and expedient and establish rules and rates for the use of such facilities as it may in its judgment provide.

ARTICLE VI: SECTIONS

In order to facilitate the work of the Association, sections may be formed and discontinued from time to time, as the Trustees may by vote determine. Such sections may be geographic, in order that recognized meetings of the Association may be held in various parts in places not easily accessible to all members, or may be departmental in their nature and devoted to any recognized branch of hospital work. Proceedings of any authorized section of the Association approved by the Board of Trustees may become a part of the proceedings of the Association, and any resolution adopted by a geographic section shall be recognized as a motion duly made and seconded by any general session of the Association, and vote of the general Association shall be taken thereon.

ARTICLE VII: ANNUAL DUES

In order to provide funds for the maintenance of the Association, both institutional and personal members shall pay annual dues as may be determined by the By-Laws.

ARTICLE VIII: VACANCIES

Any vacancies occurring between the regular annual meetings in the office of the President, the various Vice-Presidents, Treasurer, Executive Secretary or Board of Trustees, shall be filled temporarily by vote of the Board of Trustees; any other vacancies shall be filled temporarily by appointment of the President; and the appointees shall hold office until their successors are elected by the Association.

ARTICLE IX: AMENDMENTS

The Constitution and By-Laws may be amended by vote of not less than two-thirds of the members present and voting at a recognized general session of the Association; provided, however, that proposed amendments shall be submitted in writing at a recognized general session, and shall not be acted upon at a session at which they are proposed, but may be at any subsequent session.

BY-LAWS

ARTICLE I

Section 1. There shall be an annual meeting or convention of the Association held at a time and place fixed by vote of the Association, or, if not so determined, by the Board of Trustees. The President and the Executive Secretary shall arrange programs for the convention.

Section 2. Special meetings may be called by the President, or in his absence, by a Vice-President, upon the written petition of not fewer than ten (10) members. This petition shall recite the object of the meeting. The President, through the Secretary, shall give notice of not less than sixty (60) days before the proposed time of such special meeting to each member of the Association, which notice shall also recite the object of the meeting.

Section 3. A quorum of the Association shall consist of not fewer than thirty (30) voting delegates or active members.

Section 4. Meetings of sections shall be held in accordance with the rules established by the enrolled members of the section hereinafter provided; provided, however, that such meetings shall not interfere with any general session of the Association.

ARTICLE II: ELECTIONS

Section 1. All officers shall be elected by ballot, excepting where it is otherwise ordered.

Section 2. A majority of the votes cast shall constitute an election.

Section 3. Only the delegates of the constituent institutional members so authorized by Article III, Section 1, and active personal members shall be entitled to vote.

ARTICLE III: DUTIES OF OFFICERS

Section 1. The President shall preside at all meetings of the Association, and of the Board of Trustees, of which he shall be the Chairman. He shall appoint all committees, unless, by vote of the Association, other provisions shall be made. He shall be, ex officio, a member of all standing and special committees.

Section 2. The Vice-Presidents shall, in the order of their rank, in the absence of the President, perform his duties.

Section 3. Subject to instructions from the Association or from the Board of Trustees, the Executive Secretary shall be the general executive officer of the Association with duties, responsibilities, and privileges such as generally accompany such executive positions. He shall keep the minutes of the meetings and the records of the Association in books provided for these purposes. Subject to the order of the Trustees, he may serve as secretary of standing committees, except the Committee on the Nomination of Officers, and perform such other duties as the Association and the Board of Trustees shall direct. Under the direction of the Trustees, the Executive Secretary shall report to the Association the proceedings of the Trustees and also make such report of his own services as may be advisable.

Section 4. The Treasurer shall receive all dues and other moneys of the Association and shall deposit and account for same, under the direction and control of the Board of Trustees. He shall give to said Board such bond as it shall determine for the faithful performance of his trust. Such bond shall be in the custody of the President. All disbursements and expenditures shall be made under the direction of the Board of Trustees and subject to its rules and requirements. The Treasurer shall keep proper books of account, and shall present a report of the finances of the Association at the annual meeting.

ARTICLE IV

Section 1. The President shall, immediately after his election, appoint a Committee on Local Arrangements to consist of the President and Executive Secretary ex officio and such additional persons as he may deem advisable and also the following standing committees of three members each: namely, A Committee on Constitution and Rules, a Committee on Nomination of Officers, a Legislative Committee, a Membership Committee, and a Committee on Time and Place of Next Meeting, composed of a trustee, the Executive Secretary and a member at large, and the President shall also appoint a standing committee on Out-Patient Work to consist of three members appointed by the President. The terms of office at the first appointment shall be so adjusted that one member shall go out of office annually. This Committee shall undertake such study or activity as may advance progress of out-patient service and shall report to the Association.

Section 2. The Committee on Nomination shall nominate to the convention the names of the candidates for President, three Vice-Presidents, Executive Secretary, Treasurer, and one or more Trustees as vacancies exist. The action of this Committee is at all times subject to the approval of the convention.

Section 3. The members of the Membership Committee shall consider all applications for membership, determine the eligibility of the applicant and express their approval or disapproval thereof to the Executive Secretary.

Section 4. The Committee on Constitution and Rules shall consider and report on all proposed amendments in the Constitution and By-Laws and all Rules of Order.

Section 5. The President shall have the power to appoint such special Committees as may be deemed desirable.

Section 6. The Legislative Committee shall so far as possible inform itself concerning all legislative procedure affecting the Association or the interests which it represents. Subject to the approval of the Association or Board of Trustees, it shall actively support all desirable legislation and actively oppose all unwise legislation.

ARTICLE V: DUES

Section 1. Constituent institutional members shall pay annual dues as follows: Hospitals of less than 100 beds shall pay annually $10, hospitals of 100-250 beds shall pay annually $25, hospitals of more than 250 beds shall pay annually $50. All other institutional members shall pay annually the sum of $10. States, counties, and municipalities shall pay in accordance with the above schedule for each institution accepted to membership. The maximum amount in such case shall, however, not exceed $100.

Section 2. Dues of active personal members shall be $5 and of associate personal members $2 for each calendar year. Life personal members are exempt from the payment of annual dues. Dues shall be payable on or before the first day of March of each year at the office of the Executive Secretary, provided, however, that the dues of members acting as the delegates of institutional members shall, upon request of such personal members to the Treasurer, be remitted for the period of delegation.

Section 3. If said dues are not paid on or before the closing of the annual convention for the current year, the Executive Secretary shall notify the members in arrears, enclosing a copy of this section; and if said dues are not paid on or before the succeeding first day of January, the delinquent member shall be suspended and thereafter shall not be entitled to receive notices, or copies of transactions, or to participate in the meetings until all arrears are paid in full.

Section 4. At any time within three years after the date when dues are first required to be paid, a member who has been suspended shall be reinstated upon the payment of the amount of dues at the time of suspension. Otherwise membership in the Association shall be terminated.

ARTICLE VI: PUBLICATION OF PROCEEDINGS

Section 1. The Executive Secretary shall furnish the minutes and proceedings of the regular meetings for publication as soon thereafter as practicable.

Section 2. The Executive Secretary shall furnish to each member, except as provided in Article V, Section 2, a copy of this publication.

Section 3. The Treasurer shall upon the certification of the Executive Secretary pay all bills for printing and publication of the proceedings of the regular conventions.

Section 4. No paper shall be published in the minutes or in any magazine or paper as a part of the transactions of this Association except with the approval of the Trustees. All papers read at any session of the Association or its section shall become the property of the Association, and when so requested the Board of Trustees may cause the same to be copyrighted in the name of the Trustees; but unless prohibited by the Trustees the authors of all papers read at sessions of the Association or its sections may cause the same to be published, and, if approved by the Trustees they may be published as a part of the transactions of the Association. No paper or magazine shall be entitled to the exclusive publication of any paper read before the Association or its sections except by vote of the Trustees.

ARTICLE VII: SECTIONS

Whenever a section is established by the Association or Trustees as provided in the Constitution, the President shall appoint a chairman and secretary thereof; and thereupon any delegate or member of the Association may become a member of such section by enrollment therein. When ten (10) or more delegates or members have so enrolled, the chairman shall call a meeting of such delegates or members, and they may thereupon make proper rules and by-laws for the guidance of such section, subject to the approval of the Trustees; and such rules may provide for the method of holding meetings, election of officers, and

other matters necessary or important for the proper conduct of the section. The chairman and secretary appointed by the President shall act until their successors are chosen by the members of the section in accordance with the by-laws established by such section.

ARTICLE VIII: GUESTS

Delegates and members of the Association may have the privilege of inviting guests to the meetings, under such rules and regulations as the Trustees may from time to time provide. Guests thus introduced shall be permitted to participate in discussions.

ARTICLE IX: DISCIPLINE

Section 1. All charges of violation and infraction of rules or unbecoming conduct shall be referred to a special investigating committee of five appointed by the President.

Section 2. Due notice of the charges shall be given to the alleged offender, in writing, by the Executive Secretary of the Association.

Section 3. The Association shall have the right and authority to reprimand, suspend and expel any delegate or member guilty of violation of any of the provisions of the constitution or by-laws of the Association, after a full and fair investigation shall have been made.

Section 4. A four-fifths vote shall be necessary to sustain the action of such committee.

ARTICLE X: AMENDMENTS

These by-laws may be amended as provided by Article IX of the constitution.

Adopted Sept. 26th, 1918, at the Annual Convention American Hospital Association, Atlantic City, N. J.

Sickness and Health Insurance

The following resolutions were adopted at the last session of the convention at Atlantic City but have not heretofore been published:

WHEREAS, the subject of social health insurance has assumed a position of first importance in public discussion and is now recognized as an inevitable social policy in this country, and

WHEREAS, the proper solution of the problem, including the formation of legislative bills and the administrative organization of the plan are of prime importance to the hospitals and dispensaries, for the reason that the fundamental basis of such insurance should be the medical treatment and rehabilitation of disabled wage earners; therefore be it

Resolved, by the American Hospital Association that the importance of health insurance investigation be recognized by this body and the board of trustees be directed to make a study of the subject in its relation to the hospitals and dispensaries; that the board of trustees give such assistance as may be requested in the formulation of plans and of legislative bills; that the members of this association and the state hospital associations be urged to give the subject careful study and to cooperate wherever possible in effective solution of the problems unsolved.

This resolution, together with the report of the legislative committee, published on page 331 of the October number of THE MODERN HOSPITAL, are again called to the attention of the hospitals. A paper on this subject, read by Mr. John A. Lapp at the convention, published in the November number of THE MODERN HOSPITAL, should also be read, as well as the paper by Dr. Thomas Howell, published in this number of the journal. As pointed out in the legislative committee report, health insurance will revolutionize hospital responsibilities. Hospital representatives should, therefore, take part in the framing of all such legislative proposals.

In accordance with instructions, copies of the above resolution, as well as of the part of the report of the legislative committee dealing with this subject, have been sent to the secretaries of the health insurance commissions in he following states: California, Connecticut, Illinois, New Jersey, Ohio, Pennsylvania, Wisconsin.

Also, a letter offering the cooperation of this association. The Connecticut and Illinois commissions have already set dates for hearings. Hospital officials in both of these states have been urged by this association to attend these hearings and to give the commissions information.

Twenty-first Annual Convention

Plans for the 1919 convention of the association are already under way. The secretary has been to Cincinnati to confer with local hospital people relative to the appointment of a local committee and the selection of headquarters.

September 29 and 30, October 1, 2, and 3 have been tentatively set as the days for the meeting.

The names of the local committee and the hotel headquarters will be announced in the January number of THE MODERN HOSPITAL.

Official Minutes of the American Hospital Association*

TWENTIETH ANNUAL CONVENTION, ATLANTIC CITY, SEPTEMBER 24 TO 27, 1918, INCLUSIVE

TUESDAY MORNING, SEPT. 24, 1918.

The convention was called to order by the president, Dr. Arthur B. Ancker, St. Paul, Minn.

The report of the committee on institutional membership was read by Dr. A. R. Warner, chairman, who presided during the discussion of the same at the request of the president. After discussion and upon motion duly seconded, the report with its proposed amendments to the constitution was made a special order of business for Thursday morning, Sept. 26, at 9 o'clock.

The report of the secretary, including the membership and publicity committee reports, was read.

Resolutions of loyalty to the President of the United States were adopted by a rising vote.

The president appointed members of the time and place committee and additional members of the auditing committee.

The meeting adjourned until Wednesday, Sept. 25, at 9 a.m.

WEDNESDAY MORNING, SEPT. 25, 1918.

The meeting was called to order by the president.

Upon motion duly seconded, the president was authorized to appoint a special committee on resolutions of nine members, and the names of the members were announced.

A communication from the Assistant Secretary of War to the convention was then read and referred to the special committee on resolutions.

The report of the war service committee was then read by the secretary, Mr. Richard P. Borden.

Resolutions expressing appreciation to the War Department for its cooperation with the association and its committees were adopted.

A telegram from Samuel McCune Lindsey relative to the Federal Inheritance Tax Exemption before Congress was read and referred to the committee on resolutions.

The meeting adjourned until 2 p.m.

2 p.m.

The meeting called to order by the president.

By unanimous vote, resolutions of good will to the Catholic Hospital Association were adopted.

The meeting adjourned until 8 p.m.

8 p.m.

The meeting called to order by the President.

Miss Georgia M. Nevins, chairman of the section on nursing, presided at the request of the president.

Resolutions endorsing the Lewis-Raker bill providing for nurses' rank were unanimously adopted.

The meeting adjourned until Thursday, Sept. 26, at 9 a.m.

THURSDAY MORNING, SEPT. 26, 1918.

Dr. A. R. Warner, vice-president, presiding.

As a special order of the day, the report of the committee on institutional membership, with its various amendments to the constitution, was called up. Several minor amendments were adopted and, upon motion duly seconded, the report of the committee was unanimously adopted. (The new constitution is printed in this issue of THE MODERN HOSPITAL.)

The report of the treasurer was then read and approved.

The meeting adjourned until Friday, Sept. 27, at 9 a.m.

FRIDAY MORNING, SEPT. 27, 1918.

The meeting called to order by the president.

The report of the legislative committee was then read and referred to the board of trustees.

The report of the accounting committee was then read by Mr. Cornelius S. Loder and referred to the board of trustees.

Resolutions pertaining to the following matters were then adopted: Hospital social service work, control of venereal disease, hospital as-

*Practically the entire proceedings of the Twentieth Annual Convention, including a story of each day's meetings, as well as the official papers, reports, addresses, and resolutions adopted, with discussions of the same, have already been published or will appear in the next two numbers of THE MODERN HOSPITAL. Copies of reports made, resolutions adopted, and names of committees appointed are filed with the official minutes. The following is a record of the official business transacted at the meeting. It does not include routine business proceedings of the various sections of the Association.

sistants, graduate medical students, hospital employees, organization of civilian physicians for military service, Red Cross survey, affiliation with army training school for nurses, use of existing hospital facilites, nurses in captivity, Federal Inheritance Tax Bill.

The nominating committee then reported, and the following were elected: president, Dr. A. R. Warner; first vice-president, Dr. Joseph B. Howland; second vice-president, Mr. A. B. Tipping; third vice-president, Sister Irmena, R.N.; treasurer, Mr. Asa Bacon; executive secretary, Mr. Howell Wright; trustee for five years, Dr. Robert J. Wilson.

The meeting adjourned until 8 p.m.

8 p.m.

Dr. A. R. Warner, newly elected president, presiding.

The report of the auditing committee was then read by Mr. Cornelius S. Loder and adopted.

The report of the time and place committee was then read and adopted.

Resolutions pertaining to health insurance were unanimously adopted. (These resolutions are published in this number of THE MODERN HOSPITAL as a part of the Bulletin of the association.)

The convention then adjourned *sine die*.

HOWELL WRIGHT, Executive Secretary.

The Institute of Reeducation for Crippled Soldiers in Bologna

Among the Italian reeducational establishments, the institute for crippled soldiers at Bologna takes a prominent place. The building, formerly a convent, is a substantial and modern structure, but considerable changes were made to adapt it to its new destination. A new, large pavilion was added, so that the institution now has room for 165 crippled men. The well-lighted basement of the main building contains the kitchen, a dining room for the nurses, the laundry, and a large basin for bathing. The central portion of the first and second floors is taken up by the chapel, which was not changed. The first floor contains, in addition to the rooms for the nurses, a large recreation hall for the soldiers and a large covered gallery in the rear of the building. On this floor is also the school of telegraphy and typewriting. The third floor contains a large number of small rooms for the soldiers. Several large dormitories in neighboring buildings have also been procured to house a portion of the soldiers. In the annex are located the various workshops, the carpentershop, the shoeshop, the shops for wickerwork, woodturning, book-binding, etc.

A pupil newly entered is left to himself for a few days. He attends the lectures, visits the various shops, and thus has time to consider the selection of a trade.

The institute is described in a recent number of the *Rivista di ingegneria Sanitaria* of Turin.

The Treatment of External Tuberculosis by Heliotherapy

In a recent article Dr. Cazin defends heliotherapy against the attacks of writers who have not used this method in a rational and approved manner and therefore were bound to fail. Untoward accidents, such as congestions, fever, erythemata, etc., result only if the well-established rules based on experience are disregarded. If a healthy man, by a sudden and long-continued exposure to the sun, may suffer serious injuries, the same is even more true in the case of a sick person. The beneficent and efficacious effects of the sunrays are undeniable, for they not only influence the local lesions, but have a general tonic effect on the whole system. In Pott's disease, the combined method of heliotherapy, immobilization, and compression has cured thousands of cases. But heliotherapy is not a panacea, as its opponents wish to represent it in their attacks.

Dr. Cazin's article appears in the Paris *Gazette des eaux*.

OCCUPATIONAL THERAPY, VOCATIONAL RE-EDUCATION AND INDUSTRIAL REHABILITATION

Conducted by DOUGLAS C. McMURTRIE, *Director Red Cross Institute for Crippled and Disabled Men* and ELIZABETH G. UPHAM, *Advisor in Occupational Therapy, Milwaukee-Downer College.*

HUMAN FACTORS IN THE RECONSTRUCTION OF DISABLED SOLDIERS AND SAILORS*

Influence of Community and Reaction of Man Himself Two Most Important Factors in Rehabilitation Process—Education of Family and Public Necessary—What Cripples Can Do

By DOUGLAS C. McMURTRIE, Director, Red Cross Institute for Crippled and Disabled Men, New York City, President, Federation of Associations for Cripples, New York City.

The subject of reconstructing the crippled soldier and the cripple in general has become so well known and has been so widely represented in literature that I am going to assume you are fairly familiar with the theory and practice of the work. What I want here to speak about is your relation to it and, more broadly, the relation of the public to it. We may have the best reeducational system in the world, the best schools, the best classes, and the best courses, and yet the whole program of rehabilitation may break down and be a failure unless the human factors involved are taken into consideration and dealt with in the wisest manner. The two human factors to which I refer are, first, the influence of the community—at large and individually—on the disabled soldier or sailor, and, second, the reaction of the man to the program and the spirit with which he enters into it.

The first community influence which is brought to bear upon the disabled man is that of his family. I can best illustrate the importance of this and the way in which it operates by telling you an incident from the French experience. As you know, in France the mother of the family occupies a rather unusual position. She is the "boss," and, although her boy may grow up to be twenty or thirty or forty-five, mother still holds a position of rather unusual authority. In some of the French centers of physiotherapy, as they call them, it was discovered that about the time a man was completing his hospital care and was ready to enter upon reeducation, his mother would come in from the provinces or suburbs, very much upset. She would claim they had kept her boy too long and she had come to take him away because she wanted him where she could lavish her love on him and take care of him for the rest of his life. Although they would try to explain that they wished to train her son so as to put him back on his feet when he went home, it was too late to make the explanation. Mother made a scene, beat her umbrella on the table, and usually carried the boy away with her. She was running exactly counter to his best

* Read before the Twentieth Annual Convention of the American Hospital Association, Atlantic City, N. J., Sept. 24-28, 1918.

interests, yet did not know it, and they could not make her understand.

Finally, a new system was tried. When the hospital care had proceeded to a certain stage, the authorities sent for mother and said, "Your son's medical treatment is almost completed, and we thought you would like to know, in case you planned to to take him away. Of course, you intend to take good care of him, but you know you will not live forever. The small pension the government gives will not meet all his necessities. You remember the disabled men from the War of 1870, and you know what they were doing ten years ago—begging on the street corners. You would not want your son to come to that. Across the street is a school of reeducation, where we can give your son a training course in telegraphy, and he will go back to his home village and be able to get a job with the government telegraphs. Instead of being an idle, useless person, he will be a skilled artisan again, worthy of the respect of the community, and you will be very, very proud of him." The whole situation has changed. Mother goes into the hospital ward and says, "Son, have you heard what they are going to do for you?"

That is the difference between having the family behind the program of the government and having them opposed to it. Unless we can put the families of American soldiers behind the program of reeducation and rehabilitation, that program will fail.

One of the first things we can do for families—and I think it behooves us to do it—is to take a good deal of the terror out of going to war. For the men who are going away the chief concern is not getting killed; it is coming back disabled. They all say that they would much rather be killed, and their families have the same point of view. I was coming down the elevator in a big department store in New York a while ago, the day after a leading newspaper had printed in its pictorial section a photograph of the first amputation cases in the American Expeditionary Force. None of them were more serious than just above the ankle, and those of us who know what can be accomplished with the modern artificial limbs do not regard such amputations as real handicaps. One lady said to the other, "Did you see those horrible pictures in the paper yesterday?" And the answer was, "Yes, I did. I hope Jack won't come back that way; I would rather he were killed." If people knew how much, or rather how little, that kind of disability really means when a man comes home ready to do his best and when the government makes the provision it has, how much worry would be eliminated!

Then let us suppose that the disability has occured—and it may never happen. In a little town outside of Philadelphia a short time ago they found a woman in a dead faint on the steps of the post office. When they finally revived her, it was found that she had opened a letter from her son abroad which told of an amputation of his arm in the hospital. She was absolutely inconsolable, and said she knew that it was worse than death and that there would never be anything worth while for her son. If in that state of mind she writes to her son, it is in this spirit: "My son, I am terribly, terribly sorry that you are going to be laid aside and that you are going to be forever incapable of doing useful work." Such a reaction is not going to help the fellow at all.

We must see that members of the family know the game, know what we want from the man, and what will be done for him, so that their influence on him will help rather than hinder. Training must always be voluntary. You cannot force a man to take training, because, although you may, while he is under military discipline, be able to compel his attendance in a classroom, you cannot compel his attention and cannot conscript his enthusiasm. Unless you have these, there is no education of an adult. So it must be voluntary. You must bring a man to the decision to undergo training, and, to secure the best results, you must also have his family's consent. You must further have his family's continued backing while he is under training, and you must have the same kind of morale as is maintained for the man's benefit when he is away at the front. Every letter from the family must not say in effect: "William, I think you have done this long enough; you had better come home. It is time you got back to work and did something worth while, instead of fussing around this training school business that I haven't much confidence in." They must say: "We are with you, old fellow; stick right to it and finish it; if you do it well now, you will have it settled forever."

Of course, in this work, the social service worker is the one who can accomplish the most. The home service workers of the Red Cross are in touch with the families of a large proportion of the men. Of course, there are other families with whom this service is not in touch, and we must try to reach them in every possible way.

After the man comes home, there are a few obstacles for the family to overcome. The period of adjustment will be a rather difficult one. The man, taken away from family responsibilities and home ties, is sent to France for one, two, or three years, and comes home after having lived a life of continuous excitement, always out in the open, always under pressure. He is going to find it a little hard to come back to five youngsters and food perhaps not of the best, as well as to some of the other difficulties that ensue in the domestic routine. The situation with the disabled soldier is going to be doubly difficult, and it will require all possible tact on the part of a family and the family's advisers to get through the period.

Again, the family's reaction too often will be: "Well, you have done your bit; you have been injured. Now it is up to the government to take care of you. Settle back and take it easy; believe me, you have earned it." What they are advising is the most desperate thing for the man that can be imagined. They are also liable unduly to coddle a man who is disabled. A man who is disabled physically, in the eyes of the ordinary citizen, is a helpless creature; in the eyes of those who have been used to working with cripples, he is not at all helpless, but entirely able to do everything for himself. We want the family to understand this; we do not want to have him waited on hand and foot, encouraged to do nothing for himself, and become practically an imbecile.

One of the most interesting features in the rehabilitation of American blinded soldiers is that in connection with the training school in Baltimore, where a house has been established to which the families of the blind men are invited. The object is to train the families reeducationally and to show them what the blind can do, so that, when they come home, instead of saying, "Don't go upstairs, you might fall," they will expect the man to go about the house and garden and do everything for himself. They will continue the same quiet encouragement that he has had during his training; in other words, they will carry forward his reeducation in his home. That is the ideal; we want to approximate it as closely as we can.

Another necessity is to impart the right spirit and a sound social philosophy to the people who are dealing at first hand with the disabled soldier, to the nurses, to the doctors, to the aides, etc., who come in contact with him both on the other side and after his return. This is quite a mechanical problem, because the medical forces that

went abroad in the early months of the war are not familiar with what is being done on this side and are not acquainted with the new method of dealing with the disabled. They must be informed, so that their treatment is sound socially as well as medically.

The employer exerts a community influence on the disabled man. If left to himself, the average employer will get together with a committee of his fellows and deliberate about as follows: "Well, we have twelve disabled men who have come back from abroad—heroes; we must certainly look out for them. Now, Jones, you ought to be able to take care of six of these men in your factory, and, Smith, you could certainly put four in your warehouse, and, Johnson, you can place two in your store;" and, conceiving their patriotic duty in that way, they accept the assignments. Jones goes to his superintendent and says, "I have just agreed to employ six disabled soldiers, so plan to make places for them." The superintendent looks at him aghast and says, "Where?" "Oh, I don't know, you fix them up some way." So the superintendent adds six messengers or six doorkeepers to the plant. The disabled soldier is paid $20 a week, let us say, for being a doorkeeper, because it is considered patriotic and because the community wants to take care of the boys that come home. What happens? The disabled soldier goes into the job and takes his $20. He knows he is not earning that money and soon realizes he is an object of charity. Every day that man's character is being broken down, and he is being made a less useful citizen.

Furthermore, jobs of the character described have no future; the ex-soldier will keep on being a doorkeeper as long as he lives. Then, patriotism on the part of the employer does not last. It may last for six months after the war is over, perhaps for nine months, peradventure for eighteen, but, at the end of that time, when the next commercial depression ensues, the plant is forced to sift down its pay-roll. These disabled men will be the first to go. They will go in the most desperate economic condition a man can imagine, with no confidence and no nerve, no experience, and no training. They will be turned out with their physical disabilities, and will be in a bad way indeed. That is taking care of the soldier from the patriotic point of view alone.

We need more than patriotic willingness; we need intelligence as an added ingredient. We must protect disabled men from employment in jobs of that kind.

When we speak of reconstructing a disabled man and putting him back on his feet again in a position to earn as much money or more than he ever earned before, the first reaction is that of incredulity: "It cannot be done." Let me give several instances that convey some conception of the way in which it can be done. If you were given a case of a man with both legs off above the knees, you would consider him seriously handicapped. Any pension board in the world would classify him as totally disabled; any workmen's compensation commission would classify him as totally disabled, and that man would be theoretically set aside to do nothing for the rest of his life. He is seriously disabled, but not to such an extent that he cannot earn $30 a week with ease. Let us take nine months to train that man as a linotype operator. He can use his hands and head in full measure and can do as well at a linotype job as any man with all his faculties intact—if he has the training. That man, therefore, with two legs gone, is no longer handicapped economically. In a big automobile works of which you all know, disabled men have assembled engines passing along on an endless belt. The cylinder heads have to be sealed with a certain kind of compound, and as they pass, a man takes a brush and runs it around the top of the cylinder. If that man had two hands, he would have one in his pocket and be working with the other. He has only one, and does the work with that.

In a report on work for the blind abroad, I read lately that a great many blind men were employed in a clock factory. The modern clock has for a gong a spiral tempered wire which must be tested to determine its tone and adjusted by a screw on the end to make the tone come right. They use blind men exclusively for that job, which is a highly skilled one. Could a sighted man do any better than a blind man in that position? Certainly a blind man is under no handicap whatever. In a large factory making magnetos for high-class automobiles, go to the assembly bench and you will find a blind man working deftly. Is a blind man a poorer or a better employee in that job than a man with sight? The employer considers him a better one, because he does not look out of the window to watch a girl walking down the street; he goes at his job and keeps at it until he finishes, and he never makes a mistake.

The sense of touch is more delicate, it seems, than the sense of sight. In one electrical works where porcelain insulators are put on a certain product, a member of the firm said they had put on about 1 percent of defective porcelain pieces, which later had to be thrown out by inspectors. Since they have employed blind men on that work, they have never had one piece of defective porcelain and have dismissed their force of inspectors.

I do not mean that rehabilitation of the disabled is easy, but I do mean that it is possible, and in the multiplicity of industrial processes today, you can, by looking far enough, find jobs for a man with any kind of disability, which he can fill as well as his able-bodied fellow.

Let us now consider the influence of the public at large. We pity the disabled man and pity him so obviously that he comes very soon to pity himself—and a very natural thing it is. In practically all the French schools for the blind you can see on the wall—the blind men, of course, cannot see it themselves—"Don't Pity the Blind;" and by that they mean, don't pity them in their hearing. This has become necessary because the first reaction of every visitor was, "Oh, the poor things!" This was desperately wrong, because the very thing they were trying to do was to encourage the blind man and tell him he had everything before him. The universal reaction: "That is a shame—oh, what a pity!" is anything but helpful.

We must inculcate in the public a belief in the capability of the cripple and of the man with other types of disability. We must put across publicly the conception that the cripple can do things if we will only regard him in the light of his ability rather than in the light of his disability—if we will forget the disability he has and seek for him some jobs in which his ability will become effective.

From one of the New England towns to which have returned quite a few disabled soldiers it is reported that no one could tell whether they were suffering from shell-shock or intoxication. The average man on the street thinks the best way he can show his regard for the soldier who comes back from the front is to buy him as many drinks as he can at the corner saloon. Luckily, that opportunity will not exist for long. But it exists now, and it is indicative of a very pernicious attitude toward the disabled man.

From Montreal, several years ago, came the report of difficulty caused by the fact that the men who came back disabled were being spoiled by the community. One man in particular, whose family had been under the care of the

Canadian Patriotic Fund, returned from the front. His wife and children had been looking forward anxiously to his homecoming. But they did not see much of him. A holiday, however, was coming, and they finally elicited the promise from father that he would take mother and the children out to the park that day. The morning came and mother began to get the youngsters ready, but father showed no signs of starting. Finally she asked him, "Aren't you going to take us out to the park to-day?" He replied, "Oh, no, I have got to go to a sing-song at the Ritz this morning and for a motor ride this afternoon." The society ladies were helping the returned hero to build up his character! You will find this attitude so universal that, in many ways, it is the most dangerous influence with which we have to deal.

In dealing with the public as a whole, we must urge that every influence on the disabled man be measured as to whether it is constructive and helps to build up his character or whether it is destructive and tends to break it down. Luckily, we have at our disposal an agency to deal with the influence on the disabled soldier, in the form of public education. Public education I consider one of the most necessary elements in any national program—though it has been neglected, to their great sorrow, by some of the foreign governments. They have built up systems of rehabilitation, but the public has not understood them; and the public has spoiled them or is spoiling them very fast.

We can reach the man in several ways—in the first place, by direct statements, cards, booklets, and the like, which can be distributed in the hospitals, which will tell him what the program of reeducation is and what the nation seeks to do for him when he gets better. You can picture the ordinary reaction of the man who is disabled. He is not only a well man, but he has been selected from the physical pick of the country. When he is struck from that condition into a condition of what he conceives to be total disability, he is pretty much discouraged, because he knows that the man who worked next to him in the machine shop or factory, who was earning $35 a week, is now selling shoestrings on the main street, and he could go on and repeat in his mind thirty or forty instances of that character. He knows that physical disability has meant dependence, and you have to start at the earliest possible moment to admit past faults and tell him that we are learning and have something better in store for him.

One of the interesting things that has been done is the preparation by the office of the Surgeon-General of the Army of a series of educational films entitled "The Way Out," which gives the history of successful American cripples and demonstrates that losing an arm or a leg does not necessarily mean helplessness. They are being shown or will be shown at all the military hospitals abroad and in this country. I remember the story of a man in Kansas City who, the moment he heard of a man run over in the street, made it a regular practice to go to him at the hospital and say, "Don't worry, you have only a leg gone, and I have a leg and an arm gone and it doesn't worry me a bit."

That is the policy of encouragement of cripples by cripples. The Germans have issued a book entitled "The Will Prevails," which gives the autobiography of a thousand successful cripples from the middle ages down, and it teaches that, if a man makes up his mind to make good, he is not crippled at all. We have at Baltimore the Red Cross Institute for the Blind, and the first American soldier who returned blind got along finely, caught the spirit of the thing easily, and became encouraged and was making good progress. The first American sailor who came there wanted to commit suicide. Nobody could do a thing with him; he wanted to die and die quickly. They could not make any progress with him until finally they decided to let the blind soldier take him in hand. They left the two together, and in three days they were going about laughing and the sailor was on his way to success.

Another influence is organizations of cripples themselves. In one of the leading French schools of reeducation there is an alumni association which is called upon to settle all difficulties that arise. The alumni can give the trainees the practical benefits of their experiences, and their arguments are more persuasive than good theory.

Now, there remains the part the family can play in the program of reeducation. We can reach the family through general publicity, because most of the people we reach now are families of soldiers, and we can also reach them through the home service of the Red Cross or similar organizations, for one of the responsibilities the Red Cross Home Service has undertaken is the education of the people under its care.

The employer can be educated in several ways. The Red Cross Institute for Crippled and Disabled Men in New York City has been trying to reach him through the chamber of commerce. Practically every chamber of commerce has transmitted a message to its members with its endorsements, telling them the wrong and the right way of intelligently helping. The public at large can be reached through every possible form of communication, and can be reached directly. The American Telephone & Telegraph Company recently distributed in the United States for the Red Cross five and a half million folders which pointed out the duty of the public toward the disabled man.

The newspaper, by stories of what is being done in the field, makes reeducation appear a logical and practical thing. The magazines also assist in this, and one of the essential things being done is to educate the writers of the country to present to their readers the cripple in his proper light. In the past, when a cripple was mentioned in a book or in an article, it was with a sob—and a very hopeless sob, at that. We want to change all that, because that sort of thing is not constructive.

Public speaking, of course, is another valuable medium of publicity. We assume there will be built up a service of public speaking through the country which will carry to everybody the general gospel of reeducation. The theory is not obvious; what we tell the employer is not obvious, but it is logical and he understands it. Once he has heard it, he will never slip back to his old conception of disability.

Now, the other human factor is the spirit of the man himself. In the past, we have been accustomed to speak of cripples as beggars, and as "down-and-outers," and I think for that we have only ourselves to blame. The cripple usually starts right; he does not want to be dependent. The average man comes from some useful activity; he is injured and does not want to be an object of charity. He does not want to beg, but, by his relationship to the public, he is driven into the status and attitude of a pauper. A railway surgeon from the West told me quite a few years ago that in his experience—and we did not talk then of scientific care for cripples—"whenever a man is run over on a railroad, I know if I can get hold of him the day he comes out of the hospital, I can make a success of him, but if I let him go three weeks, he is gone." This statement all of you can probably verify from your own experience. If you start the man right and arrange so that he will not be subjected to too much discouragement and adverse influence, he will succeed.

I wonder if you realize just what cripples can do—what

American cripples can do when they summon their nerve to it. We have in New York at the Red Cross Institute a good many civilian cripples whom we are trying to put on their feet. We find that one of the most helpful things we can do is to arrange cripple parties or meetings in which they are brought in contact with other cripples who are not "down-and-out," but who are making good. One of these meetings made a deep impression on me. There were four or five speakers, all of about equal caliber and success, but I have time to tell you only of two. One was a man from the Southwest who was run over in a railroad accident and both his arms were taken off. One arm was taken off—in fact, it was not an arm amputation, because part of his collar bone was gone as well—and the other arm was amputated just below the elbow. That is a tremendously serious handicap, infinitely more serious than a double leg amputation, because, with both arms gone, a cripple is subject to the ignominy of having people dress him and look out for him generally. This man did not want to be a beggar and tried to make his own way, but the road was hard, and discouragement met him at every turn. He said that in a short length of time he called on two thousand employers asking them for a job, but they all looked a little embarrassed, smiled sympathetically, handed him half a dollar, and said that they did not have any jobs at the moment. It was always the half dollar and never the job. Almost reduced to begging food from door to door to keep life in his body, he still retained his ambition. He knew one man, a friend of his father's, and to him he said: "I am not going to ask you for a job, because I know you would laugh at me, but you have a lot of jobs and I am going to ask you to let me take a chance at some of them and see if I can do the work. Just let me try; don't put me on the pay roll."

The man let him try. He was in the contracting business, and among the things he did was laying street paving. One of the jobs was to check the number of paving blocks issued to the workmen. The cripple said, "I can do that as well as a fellow with two arms." He did—with the result that he was put on the pay roll and started to advance. He began studying law in the evening and was admitted to the bar. Meanwhile he had been working on his own artificial apparatus, and, in comparison with all the scientific devices developed abroad, we consider that his apparatus, devised and manufactured by himself, with both arms off, is as ingenious as any we know. He studied law, manufactured his apparatus, and did all he could to help other men with two arms off. He is interested, not in one arm cases, but in double amputations. He ran for justice of the peace, was elected, and then ran for county judge. Quentin D. Corley has now for three times been elected to that latter office. He prunes his own peach trees, runs his own automobile, and does everything for himself, even to taking off his collar and tie. You can insult him in only one way, and that is by offering to do something for him.

The other speaker was a man who was out in a blizzard and, as the result of exposure, had his four extremities frozen. When he recovered, he had to have amputated both legs, one arm, and four fingers off the other hand. He had no resources whatever. The county supervisors of the poor took him under their custody and agreed to support him. Soon he got tired of being kept by the county and said, "I have to make good; I haven't any limbs; the only thing about me that is not cut up in some way is my head; I guess I had better start to polish up the machinery above my neck." He went to the three supervisors and said, "I want to make you a sporting proposition; I am healthy, I will live on you until I am ninety if you leave me here, but if you will give me one year in college, I will never cost the county another cent." They deliberated until the early hours of the morning before reaching a decision, and, in the words of the disabled man, "Thank God, there were two sports on the board." He made good; he carried out his end of the bargain, and Michael Dowling has since been speaker of the House of Representatives in the state of Minnesota and is now president of one of the most prosperous banks in that state. He married since his accident and has three daughters, one of them now going through one of our leading girls' colleges and her sisters prepared to follow her. He drives his own automobile, and he says that physical handicaps disappear the moment you make up your mind to conquer them.

These are the human possibilities. A European writer says in what is, to me, a very inspiring way, "There are no more cripples," and the work that is being done in rehabilitation is certainly demonstrating the truth of that statement today. Physical handicaps, yes—but social and economic handicaps, no. Some of the men who are abroad today are coming home disabled; they are coming home to a task greater in some ways than the one which they are doing so well now. I am confident that they will discharge that task and win their second victory so that we will be as proud of them then as we are now proud of them in winning their first. And I am confident further that you—and the American public—will not put one straw in the way of their success.

Emergency Course of Training for Reconstruction Aides

In accordance with the call issued by the Surgeon-General for a thousand women to serve in military hospitals at home and overseas in the teaching of hand crafts and other subjects to disabled soldiers, the committee of the National Society for the Promotion of Occupational Therapy has set up an emergency course to be used in the training of reconstruction aides. The proposed qualifications and requisites for entrance to this course are three: age, educational, and special. Applicants should be between twenty-three and forty-five years of age, although exceptions may be made for those especially qualified. A general high school education or its equivalent is necessary, and college or normal training is desirable. The special requirement is that of technical training. Knowledge of at least one craft is essential, as well as the ability to teach the elements of one academic subject. Experience in social service, nursing, teaching playground work, physical training, or kindred subjects will make an excellent basis for development.

The course of training will include lectures and manual work in the crafts. The lectures cover the elements and history of occupational therapy and applied psychology, especially in relation to the various kinds of physical and mental handicap, and also include training in hospital routine and etiquette.

The work in the crafts includes woodworking, chair-caning and rush seating, basketry, cord work, clay-modeling, simple weaving, rug-making, dyeing, bookbinding, simple metal work, application of design, and practice teaching.

I borrow joy from sorrow—
A Rainbow from the Rain!
If life were not in Shadow,
My Star would be in vain—

—R. Valentine Heckscher.

DISPENSARY AND OUT-PATIENT WORK

Conducted by MICHAEL M. DAVIS, Jr.
Director of the Boston Dispensary.
Please address items of news and inquiries regarding Dispensary and Out-Patient Work to the editor of this department, 25 Bennett street, Boston, Mass.

CLINICS FOR VENEREAL DISEASE

I. Equipment for Separate Treatment of Syphilis and Gonorrhea—Adaptation to Small Hospital or Dispensary—Details and Approximate Cost of Furnishing Small Clinic

By MICHAEL M. DAVIS, JR., Director of the Boston Dispensary.

In a large out-patient department or dispensary, the clinic in which syphilis is treated may be separate from that dealing with gonorrhea; in fact, this separation is desirable whenever practicable. The equipment for the two diseases will be outlined in the following as for two separate clinics. A section relating to adaptation to small or large clinics will be appended.

1. Syphilis

"A syphilis clinic needs as good light as a dermatological clinic. There must be a history room, an examining room for each physician on service, and a special room for the administration of salvarsan. The staff must have facilities for Wassermann tests and a dark-field microscope for examination of primary lesions. The main laboratory of the dispensary may provide these facilities. In many institutions the Wassermann tests will be performed at the laboratory of the municipal or state department of health, but the clinic itself must provide for the diagnosis of early cases. The growing importance of lumbar puncture in the diagnosis of syphilis of the central nervous system renders it essential to have facilities for this. There is still some difference of opinion as to how far it is safe to perform lumbar puncture as an out-patient procedure, the patient going from the building shortly after the operation. Many clinics of standing have had excellent results and no serious drawbacks from the performance of lumbar puncture in this way. But some selections of cases must be made, and it is desirable to have facilities for keeping patients over night, although they need not be utilized for every patient."[1]

2. Gonorrhea

"The equipment for the diagnosis and treatment of gonorrhea will include accessibility to a laboratory for examining smears and urine and making complement-fixation tests. Examining and treatment tables, with irrigators, sounds, catheters, dilators, bougies, etc., are necessary. The cystoscope is essential, and a special room and table for cystoscopy are desirable, though not necessary. Some genito-urinary clinics do a good deal of operating under local anesthesia and a special room for this, with operating and instrument tables, etc., will be required. Such a room may also serve for the cystoscopic work. The sterilizing equipment must be carefully looked to. Much the most convenient arrangement is to have the treatment room cut up into a series of small rooms, or booths, so that each patient has a room or compartment to himself during treatment. This compartment should preferably contain a small instrument sterilizer so that each physician can have his instruments, gloves, etc., readily accessible. Much time is saved by such an arrangement, and privacy is gained. A utensil sterilizer for the basins, etc., is a necessity in the clinic. There must be a urinal immediately accessible, preferably within the clinic. A clinic providing for three physicians, treating men only, should have a trained attendant or clerk and, if possible, a male social worker, an admission or history room, two treatment rooms or booths with the urinal accessible, and a cystoscopy room. If women are also to be treated during the same clinic period, an additional history room, a treatment room and a nurse will be required.

"Gonorrhea in females is sometimes treated in the gynecological department. The sequelae and complications of gonorrhea closely involve the surgical aspects of gynecology. In some institutions, however, gynecology is combined with general surgery in the dispensary, and gonorrhea, as such, among both sexes, is received in the genito-urinary clinic."

3. Relationship to Other Clinics

I. SYPHILIS

"The great variety of local symptoms arising out of this disease cause patients with symptoms which are really the result of syphilis to appear in every department of a dispensary. For the sake of clinical effectiveness in diagnosis and treatment, and for the protection of the public health, it is essential that every dispensary lay down the rule that all syphilis be the responsibility of a single department. Whether this department shall be a special clinic for syphilis or a genito-urinary department treating syphilis and gonorrhea, or whether it shall be a department of dermatology and syphilis, is a matter for detailed consideration."

"The department where is placed the responsibility for the treatment of syphilis must depend on the oculist to help with an eye condition, the surgeon, perhaps, with a syphilitic ulcer, the medical clinic with a heart condition, the children's clinic with a difficult feeding case of congenital syphilis. The neurological department must have jurisdiction over its special manifestations of the disease.

"These general principles should be laid down: (1) Concentrate the responsibility for syphilis in a single department; (2) let its local manifestations or symptoms be examined or treated in those clinics to which they especially relate; but (3) require the patient to report for constitutional treatment at periodic intervals, as required by the condition, to the department having the general responsibility for syphilis. The department having the primary responsibility for syphilis will thus carry all syphilitic patients on its follow-up system, but some of the same patients will also be carried by other clinics. This relationship is particularly important in dealing with cases of neuro-syphilis.

"One means of enforcing these principles in practice is through the requirement that the Wassermann test shall be done only through a single department, e. g., the central laboratory, and that the occurrence of a positive Wassermann (or any other test which indicates syphilis) shall automatically cause a patient to be transferred to the department having the primary responsibility for syphilis, the patient being placed on the follow-up system of the syphilis department."

II. GONORRHEA

"If both men and women are treated in the genito-urinary clinic, the two sections must be kept administratively separate to a large degree, with separate waiting-rooms. If syphilis as well as gonorrhea is treated, the equipment and arrangement specified above must be included, and at least one additional room will be required for men and one for women. Assuming for the moment that only gonorrhea and the surgical aspects of genito-urinary diseases are included within the scope of this clinic, the following may be outlined:

"Gonorrhea is a disease which requires frequent visits and a fairly long period of treatment, and therefore the proportions of visits to new patients will be large. Even including those cases which are transferred to other institutions, which move away from the city, seek treatment elsewhere, or which are 'lost,' the average visits per patient among gonorrhea cases should be between fifteen and twenty, and any lower figure should arouse question whether proper supervision and control of the disease is

[1] This and several following paragraphs, within quotation marks, are cited from "Dispensaries, Their Organization and Management," by Dr. A. R. Warner and the writer of this article.

exercised. This test must not be applied to a genito-urinary clinic as a whole, since a certain proportion, sometimes a large proportion, of the cases in the clinic are not gonorrhea. The chief of the clinic should see all new cases. In a large clinic the patient is usually assigned at the first or second visit to an assistant for treatment, if this is of a routine character; but the chief himself or a designated assistant would ordinarily attend to a case where the cystoscope was necessary. It is desirable that the chief, or a specially designated assistant, should see the patient at each revisit to note progress and indicate further treatment. The same physician thus sees the patient each time, even though a different physician may give the local injection, etc. The presence of a clerk or trained attendant to attend to records and details, care for instruments, the follow-up system, etc., is essential unless the clinic is a small one."

These principles of organization will be elaborated in the second article of this series on clinic management.

4. Adaptation to the Small Hospital or Dispensary

Conditions in the small hospital, located in a town of 25,000 or 50,000 persons, differ widely from those in a great metropolitan institution. Resources are much more limited, both as to medical personnel and as to equipment. Furthermore, in the smaller community there may be more sensitiveness on the part of patients in attending a clinic for venereal disease, because of the fear of meeting people they know. This difficulty is almost entirely obviated when the venereal clinics are part of an out-patient department in which other diseases are received. Such a policy is desirable in all cases.

The small hospital or the hospital of moderate size which is starting venereal clinics, may be assisted by the following detailed list of furnishings and equipment.

The expense of maintenance may be reduced to little or nothing if some or all of the clinics are made pay clinics. The initial expense need alarm no institution which has either funds or courage.

5. Furnishings and Equipment for a Small Clinic

I. ROOMS

1. Waiting room. The sexes need not be separated, providing the room is a public passage-way, or is under the eye of a nurse or clerk. If it is a secluded room, separate partitioned spaces or rooms should be provided for women and children.

2. An admitting or history room.

3. At least two examining and treatment rooms. Where more than two doctors are at work, there should be three such rooms, and it is a convenience to have three in any case, since the equipment for the different types of work can be better distributed. All these can be small rooms; 8 by 10 feet will do, or even 7 by 9 feet.

II. FURNITURE

The minimum requirements are (1) two writing tables or small flat-top desks ($5 to $10 each); (2) two examining tables, which had best be of white enameled iron ($18), although more convenient and expensive adjustable tables can be purchased; (3) three small white enamel instrument stands ($10 each).

In addition to the chairs or benches necessary in the waiting room, at least eight chairs for doctors and patients will be required in the clinic. If there are three doctors or three examining rooms, three examining tables and an extra instrument table and desk will be necessary.

III. STERILIZING EQUIPMENT

1. Instrument sterilizers; the common "fish-kettle" ($2.50) to be used over gas will do, or an electric self-closing sterilizer costing from $12 to $20.

2. A dressing sterilizer (autoclave) is necessary, unless provided elsewhere in the hospital (cost $150).

3. Utensil sterilizer, costing $85 and up, is essential, unless provided elsewhere in the hospital. If there are three doctors working, two instrument sterilizers will be desirable. Total cost of sterilizing equipment would be within $260, and might be one-tenth of this if the hospital had the two larger sterilizers accessible. The instrument sterilizers must be in the clinic, anyway.

IV. MICROSCOPY, LABORATORY SUPPLIES AND ACCESSORIES

1. Microscope, $85 plus.

2. Dark stage and illuminator, $45.

3. Minor accessories for microscope, and simple equipment and chemicals for routine urine and bacteriological examinations, $25. An electric centrifuge for the examination of urine is highly desirable, costing about $50, but hand centrifuges, costing $10 or $15, can be made to serve.

V. SPECIAL EQUIPMENT FOR SYPHILIS

Apparatus for the injection of salvarsan and for the taking of blood for Wassermanns; hemostat, syringes, needles, basins, and instrument trays, Erlenmeyer flasks, glass graduates, total cost $15 to $20.

VI. SPECIAL EQUIPMENT FOR GONORRHEA

Instruments including sounds, bougies, catheters, dilators, syringes, irrigating stands, rubber gloves, tubing, finger cots, etc., about $75 for the necessary sets.

A catheterizing cystoscope, with batteries, about $85.

A cystoscopic table, costing about $50, would be a convenience, but the ordinary flat examining tables can be used quite well.

No instruments for surgical work are included.

An instrument cabinet, made to lock, would cost from $20 to $50.

Stock of linen, cotton, etc.—$25 would give a start.

VII. CLERICAL SUPPLIES

Equipment sufficient to provide for 2000 record cards would include index drawers for 3 by 5 cards, $5; medical record card drawers for 5 by 8 cards, $9; visible file of one of the two frequently used types, $4 to $12; cards properly printed for use in the follow-up system with the visible file, $4 per thousand, if printed in quantity; medical record cards, printed, $4 per thousand; 3 by 5 cards, $3 per thousand; rubber stamps, date stamps, receipt and report forms, $25.

VIII. MEDICINES

If there is a pharmacy in the hospital, these are readily provided. Otherwise, a special set of medicines will have to be purchased, compounded, and kept in stock. The usual medicines used in the treatment of typical, acute gonorrhea cost (for the materials) fifty cents to a dollar per week during the early stages (the retail drug-store prices are two or three times this sum).

IX. SUMMARY—(FOR A CLINIC USING ONE OR TWO DOCTORS)

1. According to local conditions.

2. Furniture: $100 up, not counting benches or chairs in waiting room.

3. Sterilizing equipment: $260.

4. Microscope and laboratory: $165 to $205 or above.

5. Special syphilis equipment: $20.

6. Special gonorrhea equipment: $230.

7. Clerical supplies: $70.

Total: $845 or above.

A hospital might well have, all ready to provide, part of the furniture and sterilizers, the microscope, chemicals, part of the special equipment for syphilis and gonorrhea, and the linen, etc. The cost of the extra equipment might then be only from $200 to $500. On the other hand, it would be easy and rather desirable to buy better things and make the foregoing list run to $1,200.

DEPARTMENT OF NURSING

Conducted by ANNIE W. GOODRICH, Dean Army School of Nursing and CAROLYN E. GRAY, Principal City Hospital School of Nursing, Blackwell's Island, New York.

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HOW THE COLLEGES CAN HELP IN THE TRAINING OF NURSES*

Affiliation of Training Schools with Universities Found to Be of Mutual Benefit—Emergency Preparatory Course Given at Vassar Camp an Unusual Success.

By ISABEL M. STEWART, R.N., A.M., Department of Nursing and Health, Teachers' College, Columbia University, New York City.

The war is bringing a great many changes in all branches of education—and none more interesting and significant than those which are taking place in the field of nursing education. Until very recently, nursing has been more or less a cloistered profession, and nursing schools have been practically isolated from all other systems of education. Nobody knew what we were endeavoring to accomplish in our training schools, and we did not know very much about what was going on outside our own very busy institutions.

Without financial resources, and without any of the machinery of a modern educational institution, we have been struggling on alone, trying to make the system of training established thirty or forty years ago in hospital training schools fit the rapidly increasing demands of a modern scientific and technical profession. Had we been more closely in touch with the currents of educational progress stirring in the world outside, we should probably long ago have done as so many other private professional and technical schools have done—we should have simply admitted that the job was getting too big for the individual hospital school and have asked to have part of the work taken over by public institutions which were better equipped to carry it on. In that way we should have secured, not only relief from our almost impossible task, but a far greater measure of understanding and appreciation of our work on the part of the great body of educators and the general public.

The fact is that the public has never realized the magnitude of the problem with which the hospitals have been struggling in the education of nurses nor has it grasped the relation which this training bears to the safety and welfare of the nation. There has been much criticism, but no real appreciation of the fact that the whole burden of preparing these workers for the service of the state and the community has fallen largely on private and philanthropic institutions, with no assistance at all from educational funds such as are appropriated for the training of teachers and other technical and professional workers. Millions of dollars of public money have been spent on training students and teachers of agriculture, for instance, but not a cent has ever been given from the public treasury to promote the education of nurses. The reason probably is that, until we found ourselves nearly swamped by the problems of the war, we have never thought seriously of asking for public help, and we have not made our work and our needs known either to the public or to the educational institutions who might have helped us.

Our comparative isolation from other educational institutions and certain of the older features of our educational system have also made it difficult for us to attract into our schools very large numbers of highly qualified students such as those who are found in the colleges and the institutions of higher education in this country. This seems strange, considering the remarkable development of the nursing field in recent years and the quite unusual opportunities for well educated women in many important branches of nursing service. College women have been flocking into business and industry and into many other new fields which do not compare with nursing in social importance or human interest. They have often expressed great interest in nursing work, but, after inquiring about the length of training, the small amount of time given to study, the long hours of hard practical work, and other conditions of hospital service, they have hesitated and very often have chosen other less attractive vocations.

Long before the war, however, certain steps had been taken to secure a closer cooperation between nursing schools and universities, so that a sounder basis could be established for the training of nurses. There was never any idea of extending this system to all schools of nursing, but there was a hope that in this way we might select and prepare a larger number of thoroughly qualified women to serve as teachers, organizers, and executives in the higher branches of professional work. We have always been pretty well supplied with rank-and-file workers in nursing, but we have been expanding so rapidly that we have never had nearly enough competent leaders and officers, and our hospital and public health work has often been seriously crippled by this deficiency.

These efforts in tying up our work with higher educational institutions have been on the whole very successful. Nursing courses of a number of varied types had already been established in about sixteen colleges and universities, and the movement was slowly but steadily taking root. There was, however, little or no prospect of any immediate or general readjustment in our system of training. The colleges were wrapped up in their more purely academic interests, and, not being closely in touch with actual conditions among the great masses of our citizens, they did not clearly grasp the vital importance of the work which nurses have been doing in many branches of public service. The hospitals were on the whole satisfied with things as they were, or were inclined to endure the evils of which they knew rather than to fly to others of which they knew not. Both are extremely conservative institutions and not likely to take such a radical step without some special push.

Then came the war. It is a well-recognized fact, drawn from the history of hundreds of years, that, whatever the devastating effects of war may be in other fields of activity, its effects on medical and nursing work have usually been highly beneficial. Indeed, the great periods of progress and reform in nursing and hospital work have practically always followed as a result of the experiences of war or some other national calamity. In the first place, just as the thought of war fires the fighting instinct in men, so the suffering of war and the wholesale de-

* Read before the Twentieth Annual Convention of the American Hospital Association, Atlantic City, N. J., Sept. 24-28, 1918.

struction of human life quickens the nursing instinct in women. Whatever may have been their previous pursuits and interests, they see at once that this matter of conserving human life is the fundamental thing, and many of them are willing to throw aside years of training in other fields to help in the only thing that seems really to matter, the relief of suffering and the saving of lives. Of course, a number of those who are clamoring to do "war" nursing are of the emotional, sentimental type, but a substantial proportion are fine, wholesome, intelligent girls and women who, when they see the need, are willing to do anything to prepare themselves for real service.

Among the very first to volunteer for nursing work were great numbers of college women, and the question was how we could make the best use of their excellent previous preparation and their known qualities of leadership in organizing the great new nursing army which must be raised to meet the needs of the military and naval service. The army and navy were drawing heavily upon the men's colleges for officer material, and it seemed to be quite the fitting and logical thing that the women's colleges should supply at least a fair proportion of the women who might be prepared to train the new recruits and to help in organizing and directing nursing work in both military and civic hospitals.

The National Committee on Nursing felt it necessary, in view of the urgency of the situation, that such students be trained as rapidly as possible; so arrangements were made with a number of representative hospitals to give credit for previous college training and push these students through in about two years instead of three. A general appeal was then sent out to the colleges to urge their students and graduates to enter at once for the nurses' training on this basis. The appeal met with a very cordial response. The need was so evident and the desire for real practical service was so keen that a considerable number entered last summer, several hospitals arranging special summer preparatory courses to let them get started at once.

But the colleges were not satisfied simply to send their students into hospitals. They began to inquire whether they could not do something more to help, and several of them in their zeal made the mistake of thinking that they could themselves prepare their students by short theoretical courses to go to the front as "war" nurses.

The trustees and faculty of Vassar college were exceedingly anxious to use their great plant and its many educational resources during the summer to further war preparedness in some definite way and, in looking over the whole field of women's work, decided that nursing was the most important and the most immediately necessary branch of women's service in war. The idea of a summer preparatory course in nursing for college women was suggested by the summer military training camp at Plattsburg for men. Mrs. Blodgett, one of the Vassar trustees, immediately consulted with Miss Nutting, chairman of the committee on nursing of the Council of National Defense, and was assured that the idea was an excellent and practical one. It was formally approved by this committee and by the Red Cross, the latter organization assisting substantially in financing the course as an experiment in war service training. A committee was appointed from the National League of Nursing Education to help in working out the curriculum, and the National Committee on Nursing gave constant advice and assistance in developing the other features of the plan.

The experiment all through has been a great success. The idea of the nursing-preparatory course outside the training school was not in itself new, but it had never before been carried out on such an extensive scale, with so many hospital affiliations and with such a highly selected body of students. The total number of students taking the Vassar course this summer was over 439. They are all graduates from colleges of good standing, 115 colleges being represented in the whole group. They come from practically every state in the country with a small group from Canada. Their ages range from 19 to 40 years, the mean age being between 24 and 25 years. They represent a wide variety of occupations, but over one-half of them come from the teaching profession, which gives some hope of relief for our serious scarcity of instructors in training schools.

They are a splendid body of women. The members of the faculty who have been working with them, as well as the superintendents of nurses, physicians, and college professors who have visited the classes and seen the students at work, all agree that they are an unusually keen, earnest, hard-working and attractive group of young women. They compare very favorably with professional students in any field, and most of them would be a decided asset in any profession.

One could not fail to be impressed with their fine spirit. It showed itself in the way they buckled down to work, in their ready acceptance of the strenuous program and somewhat restricted personal liberties which were considered necessary for the accomplishment of the work, in the cheerful way they rose for setting-up exercises at 5:50 a. m., and the zeal they showed in making envelope corners and wielding damp dusters. No doubt, there will be some in the group, as in all groups of probationers, who will fall down in their practical work, some who will prove "quitters" or "slackers," and some who will never be able to adapt themselves to the exacting demands of the hospitals; but, on the whole, most of them give the impression of being the kind of people we like to see coming into nursing schools—wholesome, intelligent, eager, energetic, and full of the spirit of service.

The course was arranged pretty much on the lines of the regular four-months preparatory course given in the better hospital training schools, except that there could be no practical work with patients in the three months while the students were at the college. The theoretical work was more intensive during this period, covering all the usual preparatory subjects—anatomy and physiology (60 hours), bacteriology (48 hours), chemistry (48 hours), hygiene and sanitation (30 hours), elementary materia medica (24 hours), nutrition and cookery (60 hours), elementary nursing and hospital economy (60 hours), and the history of nursing (10 hours). In addition, students who had not had college courses in psychology and social science were expected to take the elective courses in these subjects of 30 hours each. A number also elected the course in physiological chemistry, which was offered for those who had already studied general chemistry.

The students had practical, as well as theoretical, work in elementary cooking and nursing procedures in the college laboratories, which were well fitted up for the purpose. Though they could not be trained in the exact methods of the different affiliating hospitals, they did cover most of the practical work given in the ordinary hospital preparatory courses, and it was expected that they would require only a few demonstrations in the hospital's own methods to enable them to go ahead with the regular work in the wards. They entered the hospitals on the status of probationers in the beginning of the fourth month of training, the only difference being that their theoretical work was already covered and that they would be expected to spend the last month largely

in intensive practical work under the careful supervision which all probationers require. At the end of this time, they will be given their uniforms (if accepted) and will proceed at once with the remaining work of the junior year. Since they are all entering for the two-year course, their theoretical work of the intermediate and senior years will have to be combined and the periods of experience in the different services somewhat shortened to provide for the usual all-round training.

The arrangements with the affiliating training schools have, on the whole, worked out satisfactorily. It was considered wisest to concentrate the students in a few hospitals rather than to distribute them over a great many. A number of representative schools of various types were selected from various parts of the country, connected with hospitals with good clinical facilities, good traditions of nursing work and good standards of instruction. These schools were invited to cooperate with Vassar College on the basis outlined above, and most of them accepted gladly, stating the number of students they could take. A number of the prominent schools of the country were not included in the final list, as they were not able to reduce their three-year course of training either on account of state laws or because they preferred not to make any change in their system. Wherever any hospital asked to have its nursing school included in the list and gave some assurance that it had the facilities for giving a good training, it was added, unless, as in some cases, the application came too late.

Students had absolute freedom of choice in the selection of their schools, except for the fact that the better-known schools in the list were quickly filled up and consequently a second, and sometimes a third or fourth, choice had to be made. Whenever any student expressed a preference for a school not on the list, she was at perfect liberty to enter that school if it proved to be of good general standing.

A copy of the Vassar application blank, which included a statement of the student's educational qualifications, physical condition, and other information of a general character, was sent at once to the first training school selected, and the superintendent of nurses accepted or rejected the student as she would any other applicant. If rejected, the blank was sent to the school of second choice and so on. Dean Mills, who has shown from the beginning an unusual appreciation of the hospital side of the problem, has strongly discouraged any changing about, once the decision was made and the student's application accepted. Practically all the arrangements were made before the new Army School was established; so very few are entering the military hospitals.

The results show a decided preference for hospitals located in the larger eastern cities, particularly in New York. By far the largest groups go to the big municipal hospitals like Bellevue, New York, which took about sixty, the City Hospital, New York, the Philadelphia General, the Cincinnati General, and others of the same type. It seems evident, therefore, that, if most cities or states wish to secure such applicants for their own schools, they will have to establish their own preparatory courses and connect up with the local hospitals.

Many very interesting features of the Vassar course might be described, but it will be of special interest to hospital people to know the efforts which were made to prepare the student for the life and duties of the hospital. In all the courses, but especially in the laboratory work in the sciences, cooking and nursing, definite attention was given to training the students to observe details, to use their hands, to plan ahead, and to be systematic and orderly in their work. To help in establishing good personal habits, they were all required to make their own beds, to dust and tidy their rooms, and to keep their dormitories in a neat and sanitary condition. Regular room inspections were made by the nurses on the faculty, and records were kept of the students' standing on these and other matters relating to dress and deportment. Students were required to wear the uniform of the school to which they were assigned, and high-heeled shoes, extreme coiffures, jewelry, and other small vanities were gradually eliminated. Hospital hours for rising and retiring were enforced, and some of the commoner observances of hospital etiquette were observed.

Undoubtedly all these things contributed to the splendid morale of the students, but the main thing was that they were exceedingly happy in their work and in their personal relationships with their instructors and the many other officers of the camp. Their living conditions were good, their health was very well looked after, excellent provision was made for sports and other athletic activities, and the social life of the whole large family was exceedingly pleasant.

Besides the inspiration which a large group like this gets from starting in together, there is the great advantage of being launched into their future work with a certain impetus and enthusiasm. Most nursing students who drop out during the early stages of the hospital course do so because they fail to catch the meaning of the whole thing—they do not clearly see the goal which lies at the end of the long up-hill climb. It was interesting to see the gradual change in the view-point of these students, the rising appreciation for their new vocation which followed the various talks by leading men and women in nursing and health work. Many of the Vassar group had entered with the idea of going back to other lines of work after the war, but, unless their present enthusiasm becomes chilled sadly, there is every reason to believe that most of them will stay in the profession in educational or public health work.

There has always been a question as to whether instructors who are not themselves nurses or physicians connected with a hospital would be able to bridge the gap between the class-room and the hospital ward and make their teaching really practical and effective. The larger number of professors and instructors at Vassar this summer were recruited from the many different colleges. Most of them were not doctors or nurses, and indeed many, to begin with, had very little knowledge of special nursing needs. But they were highly trained specialists in their own branches and, with some help from the nursing and medical members of the faculty, they very soon found out what subjects needed emphasis and what kind of applications would be most helpful for these students. With the exception of practical nursing, materia medica, and the history of nursing the main part of this work can probably be better handled on the whole by expert teachers of bacteriology, chemistry, hygiene, dietetics, etc., than by the busy practicing physician or the nurse instructor in the hospital, who is usually expected to cover a dozen different subjects. The main thing is that they should be interested enough to make a special study of the phases of nursing to which their subject specially applies and that they should be good teachers in sympathy with this group of students. The teacher of practical nursing will then be responsible for connecting up the various sciences with the practical problems of the hospital, thus unifying the whole body of knowledge and making it more concrete and practical.

Although many modifications will probably have to be

worked out later, and although it would not be possible or desirable to carry out all the features of the Vassar Training Camp under other conditions, there is no question but that this plan offers a good practical basis for cooperation between colleges and nursing schools. Four other courses of a somewhat similar type were carried on this summer as a result of this suggestion and many other colleges, universities, normal schools, and technical schools are inquiring about the possibilities of working out the same kind of an arrangement in different parts of the country.

The American Council on Education, in cooperation with representatives of the Committee on Nursing of the Council of National Defense, the Army School of Nursing, the Vassar Training Camp, and the Association of Collegiate Alumnae, is taking up the whole question with a group of selected colleges, and is ready to push ahead with plans and arrangements as rapidly as possible. A pamphlet,[1] outlining the general principles on which the work should be developed, has been issued by the Committee on Nursing of the Council of National Defense, Washington, D. C., and this may now be secured by any one interested in the subject.

The main arguments for the nursing preparatory course in the colleges are:

1. It will relieve some of the pressure on hospital training schools during the war. On account of additional classes and depleted staffs, it has been almost impossible to carry on proper teaching in many schools and yet the need for this work was never more urgent and imperative.

2. It will relieve the hospital of the most expensive and difficult part of the nursing course, and the students who enter will be better prepared to start at once on their duties in the hospital. The poorer ones will be largely weeded out before they come to the hospital.

3. A thorough, intensive course of preliminary instruction will give a sounder preparation for future nursing work, and it is hoped that, on this acount, it may be possible to push students through a little more rapidly.

4. By connecting with an academic institution of recognized standing, a better class of women will be attracted into nursing schools, and much larger numbers can be recruited for the special needs of war time, as well as for the permanent field.

5. It will release additional housing accommodation in the nurses' home and so make it possible for the hospital to take in and train more nursing students for its own and the country's use.

It is not at all necessary that students should be college graduates, but they should have good high school training. It would be essential, of course, that the educational institution offering such work as this should be of recognized standing, and the training school authorities should be quite satisfied that the instruction and conditions of work are of the right kind before making any arrangements to turn over their preparatory work. Unfortunately, a few institutions have already ventured into this field without consulting any recognized representatives of nursing schools and without knowing anything about the standards of good nursing training. Such courses will undoubtedly attract numbers of misguided people, and even training schools may be misled into recognizing their work if this is not made perfectly clear.

The main thing which must *be absolutely insisted upon* in any course of this type is that it must be worked out in the closest cooperation with recognized representatives of the nursing profession and in harmony with the standards which are generally accepted in the best nursing schools. This is particularly important when it comes to the selection of affiliating schools. It is suggested that the general standards outlined in the Standard Curriculum for Nursing Schools[2] published by the National League of Nursing Education, would be a fairly reasonable requirement for such schools, or something approximating such a standard. In war time, of course, conditions in even the best hospitals are not normal, but, if training schools could be released from even a part of the preparatory period of training, it should be possible for them to concentrate more on the rest of the course and thus give a good all-round training.

In some places affiliations with colleges are also being made in the latter part of the third year, for students who wish to specialize in teaching or in public health nursing. This is another plan which is being pushed ahead because of our war needs and which will probably be worked out more fully during the coming year. All kinds of conditions are changing under the stress of the great emergency, and no one can foresee the adjustments which may have to be made from day to day and month to month. Some of these will be temporary, but it is probable that out of our new experiences we will be able to build something which will carry us forward a long way toward a more ideal system of nursing education. The great thing for us now is to hold ourselves open to every new suggestion which will help in getting many thousands of trained women into the field at the earliest possible moment and to utilize every agency which will help us toward that end.

[1] Preparatory Courses for Nurses in Colleges and Universities—A War Measure.

[2] A copy of this curriculum can be obtained by sending one dollar to Miss Isabel M. Stewart, Department of Nursing and Health, Teachers' College, 525 W. 120th St., New York City.

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SUMMER PREPARATORY COURSE FOR NURSES GIVEN AT WESTERN RESERVE UNIVERSITY*

Steps Taken in Establishment of Course—Outline of Curriculum—Advantages and Disadvantages

By CLARIBEL A. WHEELER, R.N., Principal, Mt. Sinai Hospital School of Nursing, Cleveland, Ohio.

The preparatory course for student nurses given this summer at Western Reserve University originated in the mind of the president of that university, who, interested in the education of nurses and reading of the course being planned for Vassar College, wished that something similar might be accomplished at Western Reserve. This desire became known to the League of Nursing Education of Cleveland, with the result that immediate interview was sought with the college president and in the twinkling of an eye the project was launched.

It was not deemed advisable or practical to open the course to college graduates exclusively, as Vassar was recruiting college women from all over the country for the course to be given there; consequently a plan on a much smaller scale was decided upon. The minimum entrance requirement was made a high school diploma, and students were recruited for schools of nursing of Cleveland.

A committee from the League of Nursing Education, in conference with members of the faculty of Western Reserve University, planned the curriculum and acted as an advisory board for the course, a director being appointed to manage the details.

*Read before the Twentieth Annual Convention of the American Hospital Association, Atlantic City, N. J., Sept. 24-28, 1918.

The greatest obstacle that lay in the way was the financial log. How were we to meet the expense of such a course? An appeal was made to the Mayor's War Advisory Board of Cleveland, who recognized the value of such a course as a war measure and graciously appropriated the necessary funds.

Instructors were secured from the faculty of Western Reserve Medical College, Adelbert College and the College for Women, with the addition of two nurse instructors from Cleveland schools of nursing.

Students were recruited directly through the university, which announced the course in their summer school bulletin, and through recognized schools of nursing of Cleveland. The nursing section of the woman's committee of the Council of National Defenise gave valuable assistance with the recruiting. The Vassar recruiting committee also referred to us applicants who did not meet their requirements or who were too late for registration in the Vassar course.

It was impossible to give the course publicity until after the first of May, when arrangements had been definitely made. In spite of this fact, a large number of applications was received. It was impossible, on account of lack of facilities, to take more than one hundred students. Consequently, one hundred applications were accepted, and eighty-eight of this number reported for registration.

The course, which opened June 17 and closed August 24, was given in ten weeks and was divided into two terms of five weeks each. During the first term, lectures were given at the Medical School, and during the second, at Adelbert College.

Students were required to select the Cleveland school which they desired to enter and were assigned to that school at the time of entrance. The hospitals provided room, board and laundry during the ten weeks. The students lived under the same regulations as the other pupils in the school. Uniforms were not worn, as many had to go considerable distance through the city to classes. Each student paid for all text books, laboratory fees, car fare, etc. Those who were not affiliated with any school of nursing in Cleveland were required to pay a tuition fee of $25 and to meet their own living expenses.

The students were a bright, enthusiastic, patriotic group of young women, mostly fresh from school or from teaching. Seven of them were college graduates; two had completed three years of college; four had finished one year of college; one was a normal school graduate; seven had taken several years of normal work; and the remaining sixty-seven were high school graduates.

Of the eighty-eight who entered, eighty-three were assigned to hospitals, four to army schools, and one expected to enter an out-of-town school. Eleven dropped out for various reasons before the completion of their ten weeks. The others are now being given intensive training in nursing theory and ward practice in the hospitals, where they have the status of probationers in their third month.

The subjects given were: anatomy and physiology, 75 hours; bacteriology, 45 hours; chemistry, 30 hours; drugs and solutions, 30 hours; history of nursing, 15 hours; household economics, 30 hours; hygiene and sanitation, 20 hours; nutrition and cooking, 45 hours; sociology, 10 hours; total, 300 hours.

On account of limited time, principles of nursing and procedure was not given. The cost per capita of the course was about $40, not including any of the expenses borne by the students themselves.

Centralization of schools for preliminary preparation of nurses is a thing to which we are looking forward. The summer courses given at Vassar, Western Reserve, and several other colleges seem to be the beginning of such a movement. A discussion of a few of the advantages and disadvantages as demonstrated in our course at Western Reserve may not be out of place in this report.

The disadvantages are easily discernible:

1. The crowding of so much theory into so short a time is one of the greatest. The instructors all made this criticism, saying that it was impossible to do justice to their subjects. It is also a question whether science taken in such large doses will be properly assimilated, especially by pupils who have high school training only.
2. For the students who came directly from a school year of hard mental work the heat of summer was difficult. It is doubtful if they did the best work of which they are capable.
3. The students were greatly handicapped by having to travel considerable distance to classes, thus losing valuable time.
4. It was also a disadvantage having the students so separated and living under different regulations and discipline in the different hospitals.

The last two difficulties were ideally met at Vassar by housing the students in dormitories on the campus, where they were all under the same regulations and living conditions.

The advantages are obvious:

1. As a war measure, it was most successful, for it supplied to the schools of nursing of Cleveland an extra class of students.
2. It relieved all the hospitals of one of their greatest burdens, that of the cost of instruction.
3. The students had at their disposal the splendid facilities of the college laboratories, which are far superior to any found in hospitals. For example, the anatomy and bacteriology laboratories at Western Reserve Medical College, with their wealth of material, offered advantages which could not be equalled.
4. Instruction was given by expert teachers, who were especially interested in nursing education and who endeavored to correlate their subjects to nursing.
5. The fact that the course was given in connection with a large university attracted a group of intelligent, patriotic women.
6. Reports are being received that these students are doing unusually good work and that their knowledge of bacteriology, hygiene, household economics and history of nursing has provided them with a real background for the work which they are undertaking and has given them a greater appreciation of the conditions which they are meeting than has been evinced by those who have received this grounding later in their course.

The results on the whole are pleasing; the conclusion is, therefore, that the idea of centralization for preliminary preparation is not an erroneous one and that the establishment throughout the country of longer and more permanent courses of this character is desirable.

Abstract of Discussion

MISS MAUDE LANDIS, New Haven, Conn.: The Connecticut Training School is one of the oldest training schools, having been established under a separate charter in 1872. During the past few years it has begun a systematic development, assisted by the Yale Medical School and the New Haven Medical School, which has necessitated a new organization. The Yale Medical School has recently been very richly endowed, and it was, of course, necessary that additional facilities be added to the hospital. The Connecticut Training School is the nursing department that has to do with the care of the sick in the New Haven Hospital, and the hope is that it will be the department of nursing of the Yale University. This is a peculiar situation, for Yale University is not a coeducational school. The only women who attend Yale University are the graduate students, and, as the requirements for entrance into training schools are not of post graduate qualifications, exceptions have to be made for these students. Yale Medical School does not care to assume the financial responsibility attached to making the training school one of its departments. It is, however, quite willing for the training school to go in as a department of Yale University, and we are looking forward with very great interest and anticipation to the result of this affiliation. Some publicity has been given to the plan, calling attention to the nursing needs, and this, together with the popularity won by nursing during the summer, has made it possible for us already to raise our entrance standards. The curriculum, as we have outlined it, partakes very much of the content of that given at the summer course at Vassar. We have within our call the instructors in the various departments at the university; so the course contemplated for our nurses is going to be quite wonderful. What was given in three months or thirteen weeks at Vassar we will not try to give in thirteen weeks in our school, because we will have the practical coordinating with theoretical work.

The interest shown by everybody has made it quite possible to effect changes which, perhaps, at other times, or without this friendliness, would have been quite impossible. The hospital has a capacity of 275, with the

usual number of services in a general hospital. We have just 100 nurses, but, as time goes on, we see no reason why we cannot have the full quota, which would be about 130 nurses for that school. We have, aside from the university instructors, our own training school instructor and two practical instructors. We plan not only to have the theory well taken care of, but also to outline just what might be taught in the different wards and then have the head nurses responsible for all the instruction that their wards give. The few head nurses we have, have been employed with this in view. The correspondence has brought out that always—that they have a teaching responsibility—and, in that way, perhaps, there will not be undue attention given to the theoretical phase of our work.

Only a Scrap of Paper—But, Oh, What it Means!

Englishmen can hurry with a skill and an efficiency that takes even an American's breath away. When it comes to their fighting men they break all speed records. Thousands of men have died in the mud of Flanders—thousands have been wounded and sent home—but thousands have had to lie in those "Halls of Glory," the base hospitals behind the lines; and suffer—beyond the conception of any man—before the tide turns back towards life, or slips out in the gray dawn of Flanders, never to flow back. And the British fight to save those suffering men just as stubbornly as they fight to beat the enemy beyond the heavy cannonading a few kilometers away. As these men suffer and fight for life in the long white wards, they need so many things to help; and often it is just someone they love to touch, to smile at, to take hold on life once more—to wake up after moaning intervals of unconsciousness and find her sitting close to the narrow bed, smiling at you—and it is done just as quickly as that.

After the doctor's rounds, he sends a telegram asking her to come to such-and-such a base hospital to see Private ———. That very evening, perhaps, in Devon, where the sun sinks low, a small boy comes running and puffing up the lane waving the precious paper; the door under the thatch stands open. She is there, waiting, as the women are waiting the world over today and the message says "Come." That is all she needs—that telegram is passport, railroad ticket, bus-fare, channel crossing, entrance to the war-zone, space on troop-train, pass into that long, low building where her "love lies bleeding."

Yes, it's a wonderful high-way the British build from the aching ward in Flanders to the cottage in Devonshire. Just a telegram—no bewildering officials, no hours of waiting outside important doors—just a telegram; and the next evening at sunset, she is sitting by her man in Flanders as he sleeps for the first time because the tide has turned.

Just a thin bit of blue paper—just a telegram.

JUNE RICHARDSON LUCAS.

St. Cloud is one of the most efficient Canadian hospitals in France; it was given by the Canadian Government for the treatment of French poilus, and is under dual control. The French Government supplied the huts and the Canadian Government furnished them. Each hut is named after some province or city in Canada. Each hut averages twenty-eight beds, and 60 percent of the staff is French-Canadian, while the full staff numbers 223. The officer in command is Lt.-Col. Casgrain, of Windsor, Ont. —Hospital World, Toronto.

Go through your ward about 2 o'clock in the morning and put an extra blanket on the seemingly restless patients. Notice how quickly they settle down to sleep again.—Marie Robertson, R. N., in The Nurse.

HEALTH AND MODERN INDUSTRY

Conducted by BARROW B. LYONS
Superintendent Delaware Hospital, Wilmington, Del.

ORGANIZED PREVENTION OF SICKNESS

How the Dennison Manufacturing Company Keeps Its Twenty-three Hundred Employees in Good Working Condition

By J. J. WEBER, Associate Director, Boston Dispensary, Boston

To hospital executives and workers in the health field generally, the city of Framingham, Mass., is far-famed as the seat of the community health and tuberculosis demonstration now being carried on under the auspices of the National Tuberculosis Association. To the public at large —the users of tags, pasters, Christmas seals, paper napkins and fancifully decorated crepe paper table cloths—Framingham is known as the home of the Dennison Manufacturing Company, "The House of Ten Thousand Articles." Neither the public at large, however, nor the health workers, generally speaking, are familiar with one of the most interesting and vital departments of this manufacturing establishment—the department of industrial service. This department is being built up as part and parcel of a going concern solely because the management is convinced that its activities make for efficient production. If time and money are being profitably spent in maintaining the integrity and prolonging the life of the machinery of the plant, surely, arguing *a fortiori*, time and money should be spent in maintaining the well-being

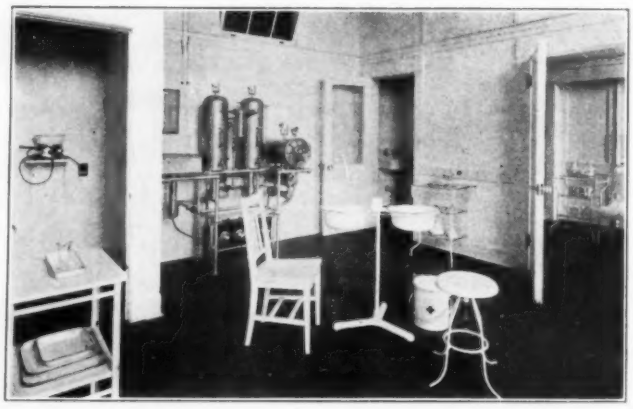


Fig. 1. The treatment room of the Dennison Manufacturing Company, with the coryza room, equipped for the treatment of head colds, at one side and the gargle room at the other.

and promoting the efficiency of the more important factor of production—the worker.

The industrial service department of this concern, now employing twenty-three hundred workers, is presided over by the Industrial Service Committee, made up of the treasurer of the company, the physician in charge of the medical clinic, the employment manager, the educational director, the registered nurse and the manager of the lunch

room. Various lines of activities are carried on, including educational classes, recreational activities, a rest room for women employees, a lunch room and a boarding house for girls. This article, however, will confine itself to the department's activities in the interest of the health of the workers.

These activities, of course, include the customary first aid and care of minor injuries and illnesses usually found in any manufacturing plant providing medical service for its employees. Anywhere from forty to sixty of the twenty-three hundred employees visit the clinic daily to have a slight cut bandaged, a toothache relieved or a slight cold treated. But this medical care, important as it is in relieving suffering, is quite subsidiary to the main

Fig. 2. The women's rest room of the Dennison Manufacturing Company, where employees are allowed a half hour's rest without loss of pay.

purpose of the company's health work. That purpose and controlling principle is the prevention of disease and the safeguarding and promotion of health. What are some of the ways in which this principle finds practical application?

In its medical work the industrial service department is not content merely with treating a wound, but every injury, however slight it may be, is reported immediately on a standardized blank form to the safety engineer, whose single task is the safety of twenty-three hundred workers. It is his responsibility to devise safety appliances that will prevent the repetition of accidents. Tangible evidence of his ingenuity may be seen on every hand by anyone whose privilege it is to visit the plant. The character of the products of the Dennison Manufacturing Company are fortunately such as to present few health hazards. The principle danger is probably from lead poisoning in the printing establishment, but here the hazard has been reduced to a minimum by the installation of efficient devices. Whenever, moreover, a new workman enters the printing department he is given a card telling him how to prevent lead poisoning.

PRECAUTION URGED UPON THE WORKERS

The employees are taught not to regard the common cold lightly, but are urged upon the slightest symptom to see the physician at the clinic. For the treatment of head colds a small anteroom, just off from the treatment room of the clinic, was built and equipped for aiding in the treatment of such colds by the inhalation of vapor rising from a pint of steaming water into which a teaspoonful of formaldehyde has been placed.

The preventive work of the department is further emphasized by the fact that curative work is done only where brief treatment is called for. When an employee's condition requires prolonged treatment, he is referred to his own physician, to the out-patient department of one of the Boston hospitals or to one of the hospitals in Framingham. The company has no contract arrangement with any of the hospitals in Framingham for the medical care of its employees. It is, however, free to refer to them any of its employees requiring hospital care. Employees who come to the company's clinic complaining of trouble with their teeth are given temporary relief and an effort is made at once to arrange an appointment with the employee's dentist.

Another important aspect of the preventive work is the sanitary inspection made every week by the doctor and the nurse. Weekly rounds are made of all the toilets, wash stands, and dressing rooms. The floors of all of the buildings are carefully inspected and all insanitary conditions are reported immediately either to the cleaning department or to the sanitary engineer.

Unremitting effort is made to educate the employees in the fundamental principles of good health. Each year a little booklet, giving in simple language the laws that should be observed to maintain good health, are distributed among the employees. As one of the principal products of the company consists of tags of every sort, there is especial appropriateness in which the physician in charge of the clinic is now working out for the distribution about once a month of health tags printed in different colors. These tags will deal simply with such subjects as general health, head colds, care of the teeth, tuberculosis, proper posture, and safety first. The subject matter of the first tag will illustrate the character of this health propaganda.

1. Eat plain, wholesome food and eat slowly. The more your teeth work the less your stomach will have to do.
2. Drink plenty of water.
3. Get at least seven or eight hours of sleep.
4. Bathe the body at least twice a week with soap and warm water.
5. Avoid constipation, as free action of the bowels is necessary daily.
6. Brush the teeth twice daily, using some good dental cream. If your teeth need attention, see a dentist at once.
7. Avoid spitting; it is filthy and spreads disease.
8. Use the bubbling fountain for drinking, but do not touch the metal.
9. Have a complete physical examination by a doctor at least once a year. "An ounce of prevention is worth a pound of cure."

Every precaution is taken to prevent the spread of contagious disease among the employees. Any employee who has a contagious disease is not permitted to return to work until he or she has first been seen by the physician in charge of the medical work at the plant.

In its preventive work, the company has not as yet adopted the policy of having a physical examination made of all its new employees or of having periodical medical examinations of all of its old employees. An effort, however, is being made to persuade as many employees as possible to have a thorough physical examination made; and thus far two or three hundred of these examinations have been completed. A thorough physical examination is given all employees who are assigned to heavy work and all young men and women who are of working age, but under sixteen, are also examined when first employed.

REST ROOM AN IMPORTANT FEATURE

One of the outstanding preventive measures adopted by the company is the provision of a rest room for women

employees. This is a spacious, comfortably furnished room located just opposite the clinic. There are a dozen couches scattered about the room where women may rest during working hours or during the lunch hour with a measure of privacy through the use of movable screens. Electric warming pads are available. Employees using the room must first report to the nurse in charge of the clinic and are allowed one-half hour without deduction of pay. Ordinarily the room is used by from thirty to fifty employees a day and during the extremely hot summer months, by as many as one hundred and twenty to one hundred and thirty. This privilege is seldom abused and in a few instances where it is, a word from the nurse usually stops the abuse.

The Dennison Manufacturing Company is fully abreast of the times in its recognition of the important part which wholesome food plays in the maintenance of sound health. Most of the employees live near enough to go home for their mid-day luncheon, but such as are unable to do so are not left to the mercy of cheap lunch rooms. The company provides lunch daily for about six hundred and fifty of its employees, two-thirds of whom are girls and women. A trained dietitian is in charge of this department and every effort is made to provide wholesome, well cooked food at cost. Thus far, however, no effort has been made to suggest well-balanced diets nor are employees taught the relative value of various foods.

As eighty percent of the plant is now devoted to government work, and some of it has to be rushed, certain departments have night shifts. The physician is not on duty at night, but is subject to call in case of real need. Through a series of lectures the night foremen have been instructed in the use of first aid equipment.

All of this health work radiates from the medical clinic, an attractive, sunny suite of five rooms, including a large reception room where the doctor or the nurse receives the employees who come for advice or treatment, a well-equipped treatment room, the private offices of the doctor and the nurse and a small rest room for men employees. The treatment room, as will be seen from the picture accompanying this article, is adequately equipped with sterilizers, medicine cabinet and other necessary facilities. One of the special features of this room, the coryza room for the treatment of head colds, has already been referred to; the other special feature at the other side of the treatment room is the gargle room. The wash stand in this room is equipped with a special funnel-shaped glass receptacle leading down into the drain pipe, which prevents spattering when the gargle is spat from the mouth. Sterilized cups line one shelf, and a second shelf is provided for cups that have been used.

The medical work is in charge of a graduate physician, aided by a registered nurse, whose especial care is the health of the girls and women employed in the plant.

A Practical Health Guide

An interesting four-page pamphlet entitled "What To Do To Become Physically Fit," prepared by Surgeon-General Rupert Blue, has been published by the United States Public Health Service. Its intent is to furnish "Information for Those Disqualified for Active Military Service Because of Physical Defects," but it is a practical health guide to any man physically fit or unfit. It would pay any employer of labor to place one of these pamphlets inside the pay envelope of each of his employees.

Copies of the pamphlet may be obtained at small cost from the Superintendent of Documents, Government Printing Office, Washington, D. C.

ENLIGHTENED SELF-INTEREST OR SERVICE?

How and Why One Shipbuilding Corporation Immediately Cared for Its Employees and Their Families in the Recent Influenza Epidemic

By THOMAS L. LEE HERSEY, Service Manager, Pusey & Jones Company, Wilmington, Del.

[NOTE: The following story of immediate and intelligent action on the part of an industrial concern is printed, not because it tells of something unusual, but because it gives a very frank statement which illustrates the value of welfare work, not only in emergencies but at all times. —EDITOR.]

When it was evident that the influenza epidemic was seriously endangering the operation of our plant, we at once took action to care for our employees. As we are engaged in building ships for the government, it was essential that no more time should be lost than necessary.

We at once organized a relief committee. Wilmington was divided into zones, and the members of our firm owning automobiles volunteered the use in order that we might determine how many sick employees we had in each zone. Volunteer workers visited every employee who did not report for duty and brought in reports to the central committee each evening. The patients were reported as needing a doctor or a nurse or needing hospital care.

In the meantime, we affiliated with another shipbuilding corporation in the city which had secured a club house to be used as an emergency hospital. The army ambulance, manned by two of our men, was sent for those employees needing hospital care, and they were transported at once to the emergency hospital.

We found many pitiful cases in which everyone in the family was stricken with the disease, and in each case we took all of the members to the hospital. In one case we found the father, mother, and three children all sick and unable to walk. We wrapped them up in the bedclothes and took them in the ambulance directly to the hospital.

Our reasons for caring for our employees and their families were threefold. In the first place, our company is engaged in turning out ships for the government. It was distinctly to our advantage to get the men back to work as quickly as possible. By making it unnecessary for a man to stay home and take care of his sick wife and family, we added one more worker to our force.

In the second place, we have brought men to the Atlantic seaboard from all parts of the country—men who are unknown here, with no credit, no friends, no families to care for them when they are sick. We felt a large responsibility for their care after having brought them so far away from their established bases.

In the third place, we recognized that the situation was too large for the established hospitals to handle and that, in order to help the community cope with the unusual danger which confronted it, we had to do all that was possible to care for those who came directly under our supervision. In this way, we not only protected our own men but helped to prevent the disease from spreading in the community.

"Sickness in this country is still looked upon as a personal misfortune. The social conscience has not yet realized that sickness is an economic calamity for which all members of the community are responsible in varying degrees, and for which the whole community pays."—Alexander Lambert, M.D., chairman, Committee on Social Insurance, American Medical Association.

DEPARTMENT OF DIETETICS

Conducted by LULU GRAVES.

Please address items of news and inquiries regarding Department of Dietetics to the editor of this department, Home Economics Building, Cornell University, Ithaca, N. Y.

FOOD WASTE IN HOSPITALS*

Practical Suggestions for Eliminating Vast Waste in Institutions—Use of Basic Quantity Ration Tables and Waste Accounting System Superior to Garbage-Can Inspection in Promoting Economy

By CHARLES S. PITCHER, Steward and Deputy Treasurer, King's Park State Hospital, L. I.

The United States Food Administration has published a pamphlet entitled "Garbage Utilization with Particular Reference to Utilization by Feeding." The opening paragraph of this pamphlet is as follows:

"The American garbage pail, with its twenty-odd billion pounds of garbage per year, can well be considered one of our expensive luxuries, and if, through high prices, by the efforts of the Food Administration or otherwise, our per capita waste can be reduced by even a small per cent, no small additional supply of foodstuffs will be available.

"Undoubtedly a large amount of garbage must exist even when the strictest economy is exercised. The garbage pail can not be entirely eliminated, but it can be enlisted in the cause of food saving. 'Put less in the garbage pail and take more out.' If all the garbage now being destroyed in cities of from 10,000 to 100,000 population were disposed of by feeding, approximately 30,000,000 pounds of pork, valued at about $5,000,000 would be available, assuming only 50 percent efficiency. If we add to this the value of grease and tankage destroyed in cities of over 100,000 population, we have over $11,000,000 per annum of potential food values being destroyed."

This pamphlet defines the meaning of the term garbage as follows:

"The term 'garbage' is a general expression for a purely local product. It does not designate any definite material or combination of materials. Its composition and even its general meaning vary in different localities. As used herein, the term 'garbage' will mean all refuse accumulations of animal or vegetable matter which has been intended for use as food for man. It will not include any material in the nature of ashes, rubbish or refuse, night soil, dead animals, street sweepings, manure, or similar materials."

On the fourth page of this pamphlet, under the heading "Amount of Garbage Produced," you will find the statement:

"Undoubtedly a big factor in the problem of garbage disposal is the fact that such comparatively small quantities accumulate each day in every household and that its nature requires removal at frequent intervals. From one-half to three-fourths of a pound daily, or approximately 200 pounds per annum, is the per capita production in the United States. Obviously the frequent removal of from 1 to 10 pounds of garbage from each residence is a decidedly more expensive operation than would be the collection of the same annual aggregate in cartload lots."

My discussion of food waste in hospitals will be confined to refuse accumulation of animal or vegetable matter which has been intended for use as food for man. This refuse will be considered as waste, not garbage, until after it has been weighed and recorded and placed in garbage cans, after which it will be called "garbage." It is desirable to make this differentiation so as to distinguish the unweighed refuse from garbage.

In considering food waste in institutions, I will in a general way divide food waste into three subdivisions: (1) waste in purchasing and receiving food; (2) waste in preparing and cooking food; (3) waste in serving food in dining rooms.

All unnecessary waste of food supplies should be eliminated, for every pound of food supplies saved is more than equal to a pound of food supplies purchased, on account of the saving in cost of production, selling and transportation. The motto of every hospital or institution should be: "Raise and save everything possible." The utilization of farm and garden products is as important as their production, for there is no use of producing food supplies and then wasting them.

Each institution should have sufficient equipment so that the farm and garden products produced at the institution, or purchased, which are not necessary for use in the dietary from day to day, may be stored, dehydrated, or canned for future use.

An institution should be equipped with dehydrating and canning appartus so that fruits and vegetables when in season may be dehydrated or canned in quantities. There will be great loss in the use of farm and garden crops, whether they are purchased or produced at the institution, unless they are properly utilized day by day. This loss will be greatest in institutions where there are farms and gardens, and it should be emphasized that neither farm and garden crops nor any other food supplies should be forced into the dietary of an institution, but only such quantities should be used as are necessary for the dietary from day to day, all the remainder being stored, dehydrated, canned or pickled for future use.

Supplies, so far as possible, should be purchased in season. The specifications on which they are purchased should be so drawn that the article is carefully and accurately described and should provide that, if the contractor fails to make proper deliveries, the institution may make purchase in the open market and recover the difference in cost from the contractor.

In the purchase of fruits and vegetables it is usually not practicable to make contracts, as these supplies can be purchased on competitive bids when needed, with the exception of such vegetables as can be purchased in quantities for storage.

All supplies when received should be weighed, counted, or measured, for in this way a very material saving can be made if dealers are given to short weight. The person inspecting the supplies should have sufficient training and knowledge to know what he is receiving, and the specifications should be so complete that he will have clear grounds for rejection or acceptance.

To prevent food waste in receiving, there should be adequate storage facilities so that all food supplies may be carefully cared for when they are delivered.

Refrigerating rooms cooled by mechanical means are superior to those cooled by ice, as the supplies may be kept much longer and in better state of preservation.

There should be sufficient storage space in which to store all perishable food as soon as received. Storerooms should be of sufficient size to insure proper separation and classification of supplies, and proper stock slips and rec-

* Read before the Twentieth Annual Convention of the American Hospital Association, Atlantic City, N. J., Sept. 24-28, 1918.

ords should be kept of the stock on hand, so there will not be unnecessary duplications in purchasing.

In places where cereals are liable to become infested by worms or bugs, if purchased in quantities, it is advisable to have the storage place scrubbed frequently, disinfected and whitewashed, and, in the summer months, if possible, to store such cereals as are on hand in refrigerated rooms.

Food supplies should not be issued indiscriminately to kitchens and dining rooms; they should only be issued upon requisitions. All issues should be made by weight, count or measure. It is not generally understood what large savings can be made through careful issuing of food supplies on requisitions.

The deliveries should be made from the storehouse to the kitchens in such a way that the supplies will not become contaminated or deteriorate while in transit. Each place of delivery, for its own protection as well as for that of the storehouse, should be provided with scales for weighing the supplies when received. Suitable storage should be provided in the kitchens for a day's supply of food and for keeping small quantities of canned and other goods which the cook needs for emergency use. Ice storage can be used in the kitchens, but it is much more satisfactory to use small mechanical refrigerating plants.

Molasses, syrup, vinegar, cereals—in fact, no food supply—should be issued in original barrels or packages unless the quantity used by a kitchen for one meal will require an original package. There is a great loss in issuing food supplies in bulk, since, when they are so issued, there is no check on the cook. Food may be conserved by issuing all food supplies in small quantities as needed.

Basic quantity tables of food supplies for issuing to given numbers of persons should be used. It has been found that, in hospitals where per capita tables for the issuing of food supplies are not used, frequently the same quantities of food will be issued for 100 persons as would be issued if there were 125 persons. I remember one instance in which as much food supplies were issued for 1,200 persons as had formerly been issued for 1,400. It can readily be seen that there should be a uniform system to govern the quantity of supplies issued per capita through the establishment of tables. Basic quantity ration tables for food supplies have been in use for over eight years with very satisfactory results. Hospitals can readily prepare their own basic quantity ration tables, as it is a simple operation.

To prepare these tables, the quantity of food supplies issued from the storeroom to the kitchens and dining rooms should be tabulated and each quantity divided by the total number of persons for whom the supplies were issued and the total number of meals for which the supplies were served. The final quotient will represent the per capita issue of food for each meal. For institutions where there are several kitchens, this plan should be followed out in computing the food supplies issued to each of the kitchens. When this has been done for each kitchen, the per capita quantities issued should be set up in vertical columns, so that comparisons may be made and the general average issue may be found by adding the given quantities of each of the food supplies issued to the several kitchens, and then dividing by the number of kitchens.

Where there are noticeable differences between the quantity issued to a particular kitchen and the average per capita issue to all kitchens, these differences should be investigated to ascertain the cause. The next step after making the computation is to prepare a basic quantity ration table for use in the institution. Institutions caring for different classes of patients will need different tables, and it may be necessary to prepare several of these tables before the right quantity is arrived at. They may be prepared as described above by setting up the quantities in the same manner for the different classes of patients, officers, and employees. In arriving at the proper per capita quantities in preparing a table, due regard should be given to the quantity of waste left over after a meal. The waste accounting system, which I will mention later, will be found of great assistance in ascertaining whether the quantities arrived at in the table are sufficient or insufficient. Careful comparisons should be made of the waste and usable food returned from the dining rooms to the kitchens, for in this way it can be determined how nearly the tables meet the situation.

The basic quantity ration tables are for the purpose of insuring a proper and uniform quantity of uncooked food to the kitchens for the number of persons to be fed. The dietaries of a hospital should be made out a week, or at least a day, in advance and a copy supplied to the persons in charge of the dietary arrangements of the institution. From these dietaries the cooks in charge of the kitchens should prepare their requisitions on the storehouse, which should be checked by the dietitian, and the party in charge of the storehouse should see that the supplies are in stock, using the quantities as shown in the basic quantity ration tables previously established.

It is advisable for institutions to compute the food value of the food issued at least monthly to ascertain whether they are overfeeding or underfeeding. Too little care has been given to this important part of the dietary arrangements of an institution. No institution can tell whether or not it is wasting food or underfeeding its patients unless it makes computations of the food value of the supplies used.

The preparation and cooking of foods are so intimately related that it would be difficult to separate the two operations.

In the preparation of food it is advisable to utilize power-driven machinery where there is sufficient work to warrant it, that is, dough-mixers, dividers, moulders, meat-choppers, dish-washers, knife-cleaners, kitchen machines, etc. If vegetables are peeled, a vegetable-peeling machine should be used. Bread-cutting machines should be used for cutting the bread, a meat-slicing machine for slicing the meat, and butter-cutting machine for cutting the butter into individual portions. This will result in a saving of food.

Proper bakery equipment will increase the production of bread. Meat-choppers will allow the utilization of pieces of meat which would not otherwise be usable. Vegetable peeling machines will reduce the waste in vegetables from 15 to 20 percent, and, where vegetables have been very poorly peeled, even to the extent of 30 percent. Bread-cutting machines will save from 1 to 2 ounces of the bread issue per person per day. Meat-slicing machines will save from 3 to 10 percent in the slicing of meat over the best hand-carving. Butter-cutting or serving machines will frequently show a saving of one-third, particularly in cases in which the butter has previously been placed on the table and the persons in the dining room allowed to take butter at will, with the result that it has been left on the plates and not used.

The preparation of meat naturally begins in the butcher shop. The meat should be requisitioned according to the basic quantity ration tables. Beef, mutton, and pork for roasting, and beef and mutton for boiling should all be weighed in the butcher shop in the usual way. After the meat is weighed, each separate lot for each kitchen should be boned and, where necessary, rolled and tied to keep it

together. It is desirable to bone all meat with the exception of steak, chops, and stew, and the use of steak and chops should be limited. By "boning" is meant the removal of all bones from pieces of meat which are used for roast meat or boiled meat, so that they may be carved with a meat-slicing machine. The meat should be cut into as large pieces as can be roasted in the oven or in a steam roaster, for large pieces of meat can be carved to better advantage in a meat-slicing machine than small ones.

For roasting meat and for baking, oven thermometers should be used. Regular oven thermometers are now manufactured for this purpose, and the manufacturers of these thermometers publish booklets giving the temperature at which certain meats should be roasted and also the temperature for different kinds of baking.

It is advisable to roast meat as rare as it will be eaten, since this process alone effects a large saving of meat. As fast as small pieces of meat are roasted they should be removed from the roaster or from the oven. Rare, medium, and well-done pieces can be obtained in this way.

Excess fat which is not needed in cooking the meat should be trimmed from the meat in the butcher shop before it is issued to the kitchens. It is a good practice to save fat under normal conditions, but, now that fat is so urgently needed for the carrying on of the war, great care should be exercised to see that this is done, for, by this procedure, a large amount of fat can be secured for cooking purposes which will make it possible for institutions to reduce their purchase of fats.

The use of oven thermometers will effect a saving in meat of from 3 percent to 10 percent, and even as high as 20 percent in some cases, by causing the cook to maintain the proper temperatures in the ovens.

Where there is excess fat left on the meat it is decomposed by the heat in roasting or it may be lost when the meat is boiled unless it is carefully skimmed from the kettle. All drippings or other fat produced in cooking should be carefully saved. In each kitchen there should be a kettle set apart for the saving of fats so that, after they have been used to such an extent that they have become too darkened for further use in foods, they may be used in soap making.

It is not only a waste, but also a detriment to the meat to carry too high oven temperatures. The fat is not only decomposed but the protein of the meat is so hardened that it becomes almost indigestible. Aversions on the part of persons to rare meat can be overcome by gradually cooking the meat more rare each week and in this way accustoming them to eating rare meat. By the proper cooking of meat and carving it with meat-slicers as high a saving as 30 percent may be made over poor cooking and hand carving. A meat-slicer will show a material saving over the most skillful hand carving.

To prevent the cooks from overcooking the meat, it may be weighed just before it is placed in the oven and again after it is roasted. Roast beef and mutton should not lose in cooking more than 20 percent in weight, and roast pork 25 to 30 percent. Chops and steaks may be weighed before broiling or frying, and after the cooking process. Other meats may also be weighed to advantage before and after cooking. It may not be practicable to do this at each meal unless sufficient help is available, but tests should be made from time to time, to guard against undue loss in the cooking of the meat. The weighing of meat before and after cooking will save a surprising quantity.

To prevent the waste of vegetables it is well to have one central peeling room, which should be supplied with modern equipment for the washing, weighing, and peeling of vegetables and the preparation of vegetables for canning or dehydrating. Very material savings of vegetables can be made through centralizing their preparation.

No bread should be delivered on oral orders to kitchens or dining rooms; requisitions should be prepared on a basic quantity ration table for the bread to which the dining room is entitled, and there should be no deviation from the table of quantities without special reason. This will prevent the baking of an oversupply of bread, which may become stale. The dining room will take better care of the bread and will give more careful supervision to the serving of it if this rule is adopted. The elimination of the waste of bread in kitchens and dining rooms will result in a large saving in flour.

In serving bread it is recommended that one slice be served at a time. When the inmates of an institution enter the dining room it might be well to have a slice of bread beside each plate, for nearly every one will eat a slice of bread. A certain number of inmates will eat two slices, a few will eat three, and a smaller number will eat four slices; but if, as is the practice in some dining rooms, three slices are placed beside the inmate's plate at the beginning of the meal, there can be but one result—a large wastage of bread. When large loaves of bread are baked, the slices should be cut in two, so that too large slices will not be served at a time.

The remarks I have just made about bread refer particularly to institutions where there is more or less custodial care. In general hospitals having tray service, the bread used can be more easily controlled, as there can be a standard quantity established for serving on each tray. In tray and dining room service, care should be taken to see that uniform quantities are served, for this will prevent waste of food. Where a person requires more, he can be given a second serving.

It is now quite a general practice, as a means of preventing waste and securing satisfactory dining room service, to adopt standard-size dishes for use in serving the food. Dishes which will hold a certain number of services should be used, together with individual dishes that will hold a portion. If too small dishes are used, the services will be insufficient, and, if too large dishes are used for a portion, too large quantities will be served, resulting in a wastage of food, especially where graduated ration dippers are not used. Institutions sometimes use bowls and cups from two to three times larger than necessary.

In serving in bulk from the kitchen, dippers which are graduated to show a definite number of portions of food can be successfully used, and, where dishes have not been standardized so that a uniform portion of food will be given, ladles or other means of service can be used to divide the food into individual services.

WASTE ACCOUNTING SYSTEM

Dining room waste is considered a hard thing to get at—presumably, because it is not usually classified.

Persons who have inspected garbage cans know that meat, potatoes, puddings, bread and other foods that appear to have been good when they were thrown in the cans are found mixed with the garbage, and one frequently hears the statement that institution kitchens and dining room employees are so wasteful that a number of families could be fed from the good food thrown into the garbage. Inspection of garbage cans will not prevent lazy or indifferent employees from throwing good food left over from meals into the cans, for they know that no adequate mental image can be formed of the good food in a can of garbage, even though the garbage is dumped

from the can on to a platform or the ground and examined. It is impossible to visualize accurately quantities and kinds of good food after it has been thrown into the garbage, and this fact is known to administrative officers.

Even with the assumption that the employees are efficient and that each is conscientiously doing his work, the inspection of garbage cans is still a failure, for the employees have no definite means of determining how much garbage there should be. From week to week, without attracting attention, the garbage may gradually increase in bulk. The most alert employee will not notice this increase, for the quantities will fluctuate from day to day so that the gradual increase is not noticed.

The failure of garbage-can inspection to give satisfactory results is due to the fact that its success depends solely on the opinion formed by the person making the inspection, who only "guesses" that the garbage is not excessive; and, as time passes, this inadequate inspection becomes lax, for there is no way of checking results through making comparisons of different kitchens.

A waste accounting system will overcome these difficulties. The good food that has not been served is classified as "usable food," which can be utilized by kitchens.

The waste and the good food are returned to the kitchen in separate containers to be weighed and recorded on the forms provided for that purpose.

This method of handling waste and usable food is a satisfactory way of preventing good food from being thrown in the garbage, for, through its operation, everything is separated and weighed, so far as it can be, before being thrown into the garbage, and this gives a complete record of the garbage, from which comparisons can be made of the waste (garbage) of the different kitchens.

The weighing of the waste not usable is one of the means of determining whether the patients are receiving sufficient food, and the weighing of the "usable food," which can be utilized by the kitchens (good food), is an additional means of determining whether the patients are receiving sufficient food. The weighing of both the good food and waste not usable (garbage) shows whether or not sufficient food has been issued, and, in the event of an official inquiry with regard to the feeding, the waste records would show whether or not enough food had been served.

Some of the advantages readily recognized by administrative officers of institutions to be obtained by the use of a waste accounting system over garbage-can inspection, are easily discernible.

With a waste accounting system all the waste (garbage) is separated and classified under various heads. The separation and weighing of the waste gives an administrative officer very necessary information as to the quantity left after a meal and shows conclusively, when comparisons are made between a number of dining rooms, whether or not a dining room is having a normal waste of food. It is a decided advantage to an administrative officer to have accurate information as to what makes up the waste left over from a meal. Too much waste of any particular article of food will indicate to him and the dietitian that too much food has been served, that the food was badly prepared or that, for some reason, it was unacceptable, and this will at once start an inquiry to determine the cause.

On first thought, it might seem that this information would be difficult to obtain and that a large amount of additional work would be required in kitchens and dining rooms. This, however, has not proved true, for the experience in the use of a waste accounting system in the New York State hospitals and other institutions has shown that this information may be obtained without increasing the number of employees. In using the waste accounting system all the waste is separated and classified under the various heads. The food left on the plates which cannot be separated into the different kinds is recorded as "plate scraps"; the bread left on the tables which has been served is recorded as "bread"; potatoes, as "potatoes" (where boiled potatoes are served, the skins are classed as "potato skins"); meat, as "meat"; vegetables, as "vegetables"; fish-bones, etc., according to name. It is necessary to classify all food served and left on plates as "waste"; food remaining in the serving room or on the table, unserved, should not be classified with the "waste" but should be returned to the kitchens as "usable food."

The waste accounting system has been used with very marked results in one of the New York state hospitals since 1911, and in all of the New York state hospitals since 1917; in some institutions in the state of Pennsylvania for over five years; and in all institutions of the Province of Ontario, Canada, since November, 1914. Such marked results have been obtained through its use that institutions have reported they had either to decrease the number of hogs formerly kept, as there was not sufficient garbage to feed them, or to purchase feed for the hogs. The feeding of garbage to swine is a ready way of utilizing garbage, but garbage is actually an expensive hog feed. From the standpoint of economy and food conservation, all unnecessary garbage should be eliminated. No garbage, therefore, should be allowed to result from a meal with the idea that it is not a dead loss on account of being fed to the hogs, since hog feed can be purchased at a much less cost than the food supplies contained in garbage.

It is reasonable to expect the following results from the use of a waste accounting system:

1. It checks both underissues and overissues of food to dining rooms.
2. It causes dining rooms to serve food more carefully.
3. It prevents dining rooms from throwing a large quantity of good food into the garbage cans.
4. It teaches the kitchen and dining room employees to handle food supplies in a careful and economical manner.
5. It gives kitchen and dining room employees an incentive to do good work, as the waste reports show which kitchens and dining rooms are run efficiently and which are run poorly.
6. It is beneficial to the inmates of an institution because it results in a minimum of waste of food in the kitchen and dining room operations and more care in cooking and serving, and because, as the waste is lessened, more food is available for service.
7. If the saving resulting from the use of the waste accounting system is not needed to improve the dietary of the patients, there will be a reduced expenditure for food supplies.

HOW TO USE A WASTE ACCOUNTING SYSTEM

In places where a waste accounting system has not been used, it would be best to institute its use by first weighing all waste not usable and making one entry of it under "plate scraps" on report blanks. Every few days, as the kitchen and dining room employees grow more accustomed to the new order of things, subdivisions of the waste can be made, until the system is in full operation.

Great care should be given to the "usable food" which can be utilized by the kitchens, which should also be entered on the report blanks.

When using the waste accounting system the dining rooms, instead of dumping all the waste from the tables into one container after the meal, gather up separately, as far as possible, the different food articles which have been served and are left on the plates and on the tables.

Where there is more than one ward served in the same dining room, the different wards gather the waste from their tables and bring it to the serving room of the dining room, and the same kind of waste from the tables of the different wards is put in one container, after which the several containers are sent to the kitchen to be weighed. The food on the tables which has not been served is classified as "usable food" and returned from the serving room to the kitchen in separate containers, to be weighed and utilized again in subsequent meals. An employee in each kitchen is detailed to weigh the waste and usable food when the dining rooms bring it back to the kitchen When a kitchen is cooking for but two or three dining rooms, the additional work is of little account, but, where they receive waste from several dining rooms, the installation of the system causes some additional work at the start. After the system is in operation, little trouble is experienced, and the cooks prefer this method to the old way for the reason that, with the old system, they could not know when too much of any food was supplied to a dining room. Under garbage-can inspection the different kinds of food left from a meal are returned to the kitchen in one receptacle, into which all kinds of food has been thrown, and, if a dining room receives too much or too little of any kind of food, it is hard for the cook to determine this fact. With the waste accounting system, an overissue of any food sent to the dining room is plainly indicated when the waste and usable food is later returned from the dining room to the kitchen and weighed.

In separating the food and sending the proper quantities to the different dining rooms, the cook has to use considerable judgment and, unless he has some way of checking the subdivision he has made of the cooked food in bulk, he is very liable to make mistakes and send too large or too small quantities to some place. The assistance the waste accounting system gives the chef and the cooks in the accurate distribution of cooked food to the different dining rooms more than offsets the work the system causes.

RECORD OF WASTE

Accurate records should be kept of the waste and usable food returned to the kitchens from the dining rooms. For this purpose a waste report blank should be used in the kitchens, on which is recorded what is returned by the dining rooms. A supply of these blanks should be placed in a suitable binder and kept in the kitchens, proper entries being made after each meal on the blank for that day.

Some institutions make daily summaries of these blanks, other institutions weekly summaries, and still others prefer to make a monthly summary. The weighing and recording of the waste and usable food is usually done by the kitchens, but in some institutions the dining rooms are required to do this. It is recommended that the weighing and recording of the waste be done in the kitchen, so that this work may be centralized and the kitchens used in keeping a check on the dining rooms. It is also recommended that the other records, monthly summary, and comparison sheets, be prepared in one of the administrative offices from the information supplied by the daily reports of waste and usable food returned by dining rooms to kitchens.

A properly supervised dietary and the operation of a waste accounting system will result in distinct economy through the prevention of food waste in hospitals. If a hospital has a census of 2,000 persons, it means that 6,000 meals are prepared each day. If but one ounce more than necessary of waste per person a day is thrown into the garbage, it will aggregate 125 pounds of food thrown away per day; in one year the waste will be 45,625 pounds; if this waste is worth 10 cents a pound, as it may easily be worth, it will mean that, for every 2,000 persons, the institution is needlessly throwing away $4,562.50 worth of food. The average institution is likely to save considerably over one ounce per capita per day by a well-operated waste system. After the waste system is in thorough working order, the table waste per capita for employees should not exceed 2½ ounces daily, and for inmates, not more than 1½ ounces. The returned usable food is usually from one-half to three-fourths as much as the waste. The quantities given are maximum quantities, and hospitals should have less waste than this.

The United States Food Administration is very much in earnest in its efforts to prevent food waste. The Statistical Division Information Service is receiving monthly reports of garbage collections and garbage grease from a number of cities. A compilation of the information received for the month of July, 1918, shows that the collection during July of garbage was 9 percent less than for the corresponding month last year. There is a slight increase in the collections for the month of July over that in June, 1918. The compilations for garbage during July, 1918, were received from 74 cities. The records of seven of these cannot be included because of insufficient data, leaving 67 cities, with a total population of over 20,000,000, to supply the data assembled. For these cities, the amount of garbage per capita for the month is about one-half pound daily. The summary of garbage grease recovered in July, 1918, shows a decrease of 16 percent from July, 1917. The returns are from cities having a total population of over 6,500,000. The percentage of garbage grease collected is less in July, 1918, than a year ago.

In order to impress upon his troops the lesson of individual food conservation, the commandant at Fort Meyer paraded his soldiers in a formal manner before the crowded garbage tins of the camp. "There is evidence," he told them, "that your eyes are bigger than your stomachs."

"Prominent among numerous economies lately introduced at army camps and cantonments are those dealing with kitchen by-products. Every organization of the army conducting a 'mess' makes the following classification of kitchen waste produced in preparing and serving each meal.

CLASSES OF WASTE PRODUCTS

A. *Bread*—which will include all breadstuff unfit for human food. It will be dried and sacked for delivery.

B. *Cooked meat*—which will include all meat gathered up from the individual plates after meals.

C. *Raw fats and meats*—which will include the trimmings and raw scraps rejected for use as food and meat condemned by health authorities as unfit for human consumption.

D. *Cooked grease*—which will include all grease discarded as being of no further value as human food.

E. *Bones*—which will include all bones discarded in the preparation and use of human food.

F. *Other garbage*—which will include all unusable portions of food not otherwise classified and will not include coffee grounds, glass, or other substances injurious for use as food for animals. This shall be mixed with ashes and disposed of in like manner.

"The first five classes of waste products are disposed of through commercial channels chiefly for conversion into grease, glue, fertilizer, poultry and animal feeds. What should particularly interest farmers having land near army camps and cantonments is the Class F material, the 'other garbage.'

"The United States Food Administration calls particular attention to the desirability of such garbage as feed for hogs. It is free from coffee grounds, glass and other injurious substances, and large camps will produce 8 to 10 tons of this feed a day, enough to feed 800 hogs. Last year the city of Worcester, Mass., fed its garbage to hogs and reported swine raised and sold to the amount of $44,487; the profits exceeded $36,000. If a city can get these results, a trained farmer who feeds his hogs high-grade

camp garbage should be able to do as well or better. Methods of practical garbage utilization by hog feeding will be supplied by the Food Administration on request."

The newspaper release of the United States Food Administration, from which I have been quoting with reference to classes of waste products in army camps and cantonments, was sent to farm journals only for release after August 19th.

The Federal Food Board for the state of New York, in its daily bulletin for September 9, 1918, says:

"Sixty nutrition officers have been appointed in the national army camps to carry on the work of curtailing waste of food in cantonments and camps. They will advise as to the nutritional values of dietaries and will cooperate with the officials to prevent spoilage of food. In one camp the average edible waste was found to be 1.12 pounds per man per day. Instructions for economizing were given, which resulted in reducing the waste to approximately 0.43 pounds per man per day, according to the findings in a second survey. It is expected that this plan will mean a considerable saving to the government in money as well as an aid to food conservation."

Institutions should certainly not have as much waste as army camps, since they have better facilities and better equipment than the camps have and their personnel does not change so frequently. It behooves all hospitals and institutions to redouble their efforts to prevent food waste, for, under normal conditions, over one-third of the total expenditures of an institution is for food supplies. It is not only a matter of economy to prevent food waste but also a patriotic duty. We have all been electrified by the five words "Food Will Win the War," and there is no better way of providing this food than by saving what we have through prevention of food waste. On account of their special training dietitians are better equipped to lead the movement to prevent food waste than other persons, and they are, I believe, doing their part to assist the United States Food Administration in its conservation program.

I would urge all persons to redouble their efforts to prevent waste of food for, despite this year's bountiful harvest, food conservation must be intensified to meet the demands of our army and the civilian populations of the United States and allied countries.

* * * *

NEWS NOTES OF DIETITIANS

Miss Evaline Kerr, formerly of Almeda County Hospital, California, is now with Base Hospital No. 1 at Fort Sam Houston, San Antonio, Texas.

Miss Bernice Butler, who has been at Camp Doniphan, Fort Sill, Oklahoma, is now with Hospital Unit 70. The latest news from Miss Butler was that she was in New York City getting equipment and making other preparation for overseas duty.

Miss Aline Brownlie has been appointed dietitian in Fabiola Hospital, Oakland, California.

Last month we reported the appointment of Miss Violet Ryley to supervise the dietitian work in the Army Nurse Corps and Red Cross. Miss Ryley resigned her position and returned to Canada about the time our copy went to press. She did not assume the duties of the work here, but is doing her work in Canada with the Invalid Soldier's Commission.

Miss Lenna Cooper of the Battle Creek Sanitarium, Battle Creek, Michigan, has been appointed to succeed Miss Ryley. Miss Cooper has had a wide experience in institutional work and is familiar with the situation in the dietary departments of both civil and military hospitals. Her keen perception and good judgment will help to overcome many of the difficulties and problems which have prevailed in the field of dietetics.

Miss Maude Anne Thomas, chief dietitian of the Philadelphia Hospital, Philadelphia, died of influenza, Oct. 21, 1918, at the hospital, after a two weeks' illness. Miss Thomas was dietitian at The Massilon Hospital, Massilon, Ohio, and at The Southside Hospital, Pittsburgh, for some years before coming to Philadelphia. She took up the duties of chief dietitian at the Philadelphia Hospital early in 1917. Her work at that place was of splendid character. In spite of war conditions she succeeded in instituting improvements and in solving many difficult problems. Her cheerful disposition and loyal cooperation were always inspiring, and she will be greatly missed by her associates and friends. Miss Thomas was a member of the dietitians' section of the Home Economics Association of Philadelphia.

The Care of Tuberculous Soldiers

Statistics gathered by the medical department of the Italian Army show that the number of soldiers discharged on account of tuberculosis is inversely proportionate to the time passed under arms; in other words, that the number of tuberculous soldiers who have served only one or two months is very large, while the disease is much rarer among the men who have served a long period of time. This is clearly due to the fact that a great number of men with latent tuberculosis was taken into the army. The medical department now insists on a close and rigid examination of all recruits, and men with suspected tuberculosis are sent to special centers where they are examined by the most modern methods and kept under observation for a certain period of time, says S. Pisani, writing in the *Rivista Critica di Clinica Medicina* of Florence.

The soldiers discharged from the army because of tuberculosis are divided into three groups, cases of incipient, intermediate and advanced tuberculosis. Patients of the first class are sent to climatic institutions in the mountains or on the seashore, seven of which under management of the Red Cross are already in operation. When cured these soldiers return to the army. The cases of the second group are returned by special Red Cross train to the provinces from which they came, where they are cared for and treated in open-air institutions. Patients of the third group, the hopeless cases, are cared for in special tuberculosis hospitals. The author calls attention to the great difference of the treatment of tuberculous soldiers now and before the war, when they were simply sent home and left to themselves.

The New Radiological Division of the St. John's Hospital in Turin

The new radiological clinic of St. John's Hospital is housed in a separate pavilion and is divided into two sections, the radiological institute proper and the hospital section. The first section has eight large rooms devoted to diagnosis, radium treatment, x-ray application, etc. The hospital section has 17 beds, 10 for female and 7 for male patients. The institution is splendidly equipped with all kinds of apparatus. It has 8 radium tubes containing, in all, 340 mg. of radium.

The clinic is described by C. Boidi-Trotti, in *Radiol Med.* of Milan.

Many people are born crying and die disappointed. They chew the bitter pill which they would not even know was bitter if they had the sense to swallow it whole in a cup of patience and water.—C. H. Spurgeon.

LETTERS TO THE EDITOR

Splendid Industrial Cooperation Results in Speedy Influenza Relief

To the Editor of THE MODERN HOSPITAL:

Thinking that you would be interested in knowing the measures taken "back to the Yards" when the influenza epidemic was at its height, I am sending you the following brief description.

About Friday and Saturday, October 18 and 19, from the reports of all nurses and doctors, it looked as though we were in for the worst epidemic in the history of this district. There were many deaths, new cases increasing rapidly, and whole families stricken at the same time. In some cases, parents were ill and there was no one to provide food for the children. The scene as it was could never be painted in its true colors.

Dr. O'Neil of the Municipal Tuberculosis Sanitarium was appointed by the health department as officer in charge of this district in influenza emergency measures. As there was no longer any room in local hospitals, he conceived the idea of an emergency hospital at the University of Chicago Settlement, 4630 Gross avenue.

The idea soon became a reality. The packing companies, acting through the Stock Yards Community Clearing House, immediately responded to the need, so that beds, cots, blankets, etc., were quickly transferred from summer camps to be used for emergency hospital purposes. Other equipment that could not be immediately furnished by the packing companies, settlement, or other organizations was purchased outright. It was a desperate move to save lives. Within a short time the arrangement was completed and a real hospital was in operation in the settlement gymnasium with four nurses in charge and twenty patients. As this effort was made when the epidemic was at high tide, we did not have to provide for more than twenty patients, for regular hospitals soon reported room for community cases.

The unique feature of this endeavor was the quick action which brought relief on short notice, the splendid cooperation of industries, local doctors and nurses, and local social organizations. Of the twenty patients received but one died, and this was a small child who was almost beyond hope when brought to the emergency hospital. There were several very serious cases of pneumonia, but with splendid care the patients fully recovered and were soon discharged. It was the feeling of those who shared the responsibility of the hospital that without a doubt, lives were saved by this heroic effort.

Diet kitchens were also established at the University Settlement, House of Social Service, and Chase House, and more than five thousand meals were carried by volunteers to families who were not physically able to provide themselves with food. It was not necessarily a matter of charity but rather a matter of providing proper food in the quickest way possible for those who were not able to prepare it for themselves.

The packing companies paid the entire expense of these diet kitchens, as well as the expense of the hospital. They purchased the food and delivered it to the kitchens, in order to save the time and energy of those who were preparing and distributing it.

I have taken the pains to go into some detail on this subject, as I am sure THE MODERN HOSPITAL is especially interested. Perhaps this is one of the most unique experiments in the city in dealing with a very bad situation, which luckily soon passed.

The output of our diet kitchen is now reduced to forty or fifty meals a day, and the hospital is no longer needed. The number of deaths and new cases, as now reported, is very low.

EMERSON O. BRADSHAW,
Director, Stock Yards Community Clearing House, Chicago.

The Hospital of Ilbarritz, a Center for Patients with External Tuberculosis

Much has been written about pulmonary tuberculosis in the armies of the present war, but few writers mention the cases of external tuberculosis. Yet this class of patients, especially cases of tubercular lesions of the bones and joints, is very large. As far back as 1916 the French medical service established special centers for this form of tuberculosis along the west coast of France, at La Rochelle, Arcachon, Cap-Breton and Biarritz. The hospital of Ilbarritz, near Biarritz on the Bay of Biscay, was established in the beautiful chateau of the same name, situated on a high promontory overlooking the bay. The rooms are large, airy, and provided with ample verandas. This hospital is peculiarly well adapted to the treatment of external tuberculosis. The usual therapeutic methods are combined with heliotherapy. Immobilization is one of the chief elements of the treatment. The patients are kept in their rooms only during the night. Early in the morning they are rolled out on the large verandas and terraces where they are exposed to the curative effects of the sunlight and breathe the invigorating salt air of the bay. The hospital is under the management of Madame Williams assisted by two American ladies, Mesdames Frothingham and White. It is described by Peyret and Fournier in the *Journal de Médecine de Bordeaux*.

Tuberculosis Sanatoriums in High Altitudes and on the Plains

E. R. Coni maintains that there is no special climate for the cure of tuberculosis. For successful treatment the disease requires merely fresh air, rest and good and abundant food. It is not necessary to send the patient to the mountains, where he is away from his family and becomes a victim of nostalgia and where he lacks the conveniences and aids which his delicate condition requires. Sanatoriums should be established in the country, not far from the great centers of population. The great mountain sanatorium, Santa Maria, with 700 beds, has not been a success, while the Tornu Sanatorium, established in 1904 and situated in the plain, about ten miles from Buenos Aires, has been remarkably successful in its cures. To combat tuberculosis the author proposes that the government should establish numerous tuberculosis dispensaries and two large sanatoriums near the capital, one for men and one for women, besides an agricultural colony where the patient could complete his cure before returning to his former work.

Coni's article appears in the *Semana Medica* of Buenos Aires.

BOOK REVIEWS

Dispensaries, Their Management and Development. By Michael M. Davis, Jr., Director of the Boston Dispensary, and Andrew R. Warner, M.D., Superintendent of Lakeside Hospital, Cleveland, Ohio. Cloth, pp. 426, $2.25. The Macmillan Company, New York, 1918.

That a book like this has not appeared sooner is rather amazing when one considers what an increasingly important part dispensaries have been playing in the care of the ambulatory sick during the past fifteen years, a period during which their number has increased from about one hundred and seventy dispensaries to approximately three thousand of all classes. Stimulated by the unremitting efforts of agencies organized to combat disease and by the growing interest in health as a national asset, we may expect dispensaries to continue to grow in number, and so evolve in character as to fill a much larger field of usefulness not only in the treatment of sickness but in the prevention of disease.

In the words of the joint authors, the book has a threefold object: (1) to depict briefly the history and present extent of dispensaries in the United States; (2) to present the practical details which all people, including superintendents, physicians, nurses and social workers, who are working in dispensaries, particularly need to know; (3) to present the dispensary as a form of organization not only for rendering efficient medical service to the people, but also for benefiting the medical profession by stabilizing the economic position of the average physician.

The history of dispensaries in the United States is indeed depicted briefly, and if the reader comes to the book looking for more than the barest outline of the growth of dispensaries in the United States, he is doomed to disappointment. But this is a virtue rather than a fault, since the inclusion of a more elaborate historical exposition would have made the book uninvitingly long. The sections of most practical use are those devoted to fundamental principles and technic. Here the reader who is interested either in organizing a new dispensary or in organizing additional clinics in already existing institutions, or in improving the organization, equipment or technic of existing dispensaries, will find a wealth of practical suggestions and information, whose peculiar value lies in the fact that it emanates from the eight years of experience of one of the authors in reorganizing and building up one of the largest dispensaries in the country.

The last five chapters of the book bulks large in prophecy of a worth-while character, and are especially stimulating. With the passing of the "family physician," and the increase in specialization, we are on the verge of a new era—the era of cooperative medical practice in which the dispensary is bound to play one of the leading roles. How this development will tend to stabilize the economic status of the average physician is interestingly set forth. The authors are not unmindful of the deficiencies of present dispensary organization, and realize that these deficiencies must be corrected is dispensaries are to occupy acceptably the larger sphere they seem destined to fill. The rapidity with which dispensaries will develop into agencies of larger service to the people will depend very much upon the rapidity with which the general public comes to know what the cooperative practice of medicine means, and what it involves.

Appended to the volume is a comprehensive bibliography, suggestions for by-law and administrative rules of a dispensary, and a copy of the recently enacted Massachusetts dispensary law.

BOOKS RECEIVED FOR REVIEW

Walter James Dodd. By John Macy, Writer and Critic. A biographical sketch with illustrations. Cloth, pp. 64. $1.50. Board. Houghton, Mifflin Co., Boston, 1918.

Hygiene of the Eye. By Wm. Campbell Posey, A.B., M.D., Professor of Diseases of the Eye in the Philadelphia Polyclinic; Ophthalmologist to the Department of Physical Education of the University of Pennsylvania; and Chairman of the Commission on Conservation of Vision of Pennsylvania. Cloth, pp. 331, 120 illustrations, $4.00. J. B. Lippincott Company, Philadelphia, 1918.

English, French, Italian Medical Vocabulary. By Joseph Marie. Including reference tables of special value to physicians and nurses, phrases for directing first aid to the injured, articles on pronunciation, European money tables, etc. Cloth, pp. 112, $0.50. P. Blakiston's Son & Co., Philadelphia, 1918.

In the Soldier's Service—The War Experiences of an American Woman in England, Belgium and France, 1914-1918, with illustrations. By Mary Dexter. Paper, pp. 209, $1.50. Houghton Mifflin Company, Boston, 1918.

Anatomy and Physiology for Nurses. By Diana Clifford Kimber, formerly Assistant Superintendent New York City Training School for Nurses, formerly Assistant Superintendent Illinois Training School, and Carolyn E. Gray, Principal City Hospital School of Nursing, New York. Cloth, pp. 490, 225 illustrations, $2.60. The Macmillan Company, New York, 1918.

Animal Parasites and Human Disease. By Asa C. Chandler, M.S., Ph.D., Instructor in Zoology, Oregon Agricultural College, Corvallis, Oregon. Cloth, pp. 570, illustrated, $4.50. John Wiley & Sons, Inc., New York, 1918.

Principles of Surgical Nursing. A Guide to Modern Surgical Technic. By Frederick C. Warnshuis, M.D., F.A.C.S., Visiting Surgeon, Butterworth Hospital. Grand Rapids, Mich., Chief Surgeon, Pere Marquette Railway. Cloth, pp. 277, with 255 illustrations, $2.50. W. B. Saunders Company, Philadelphia, 1918.

How France, During the War, Has Organized the Antituberculosis Work with Regard to Infected Soldiers

All soldiers infected, or suspected of being infected with tuberculosis, are divided into three groups, curable cases, permanently incurable cases and an intermediate class. The curable patients are treated in special hospitals, *stations sanitaires*, and, after being cured, take their former place in the army or are employed in an auxiliary service. The incurable cases are either isolated in special hospitals or sent to their homes if there is no danger of spreading the infection. The patients of the third group who can still perform useful work, are sent to their homes after having received prophylactic instructions regarding their disease. The *stations sanitaires*, of which there are at present twenty-eight, with 5,500 beds, have the character of sanitariums. The educational work is in the hands of competent ladies, usually widows of officers. The patients sent to their homes are under the constant supervision of visiting nurses.

E. Bertarelli describes this work in the *Rivista di igiene e di san. pub. of Parma.*

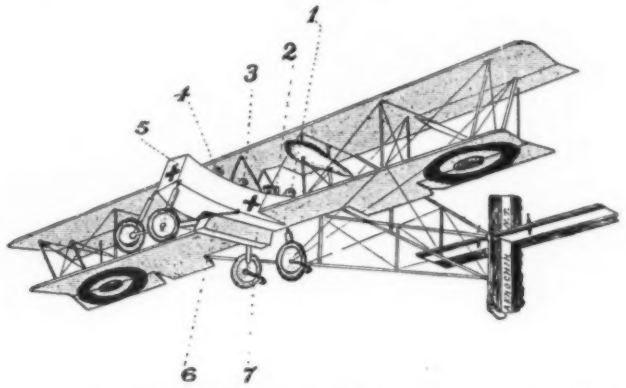
CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General, United States Army.

The Radio-Chirurgical Aeroplane. M. A. Nemirovsky and M. Tilmant. Bull. Acad. de Méd., 1918, LXXX, No. 35.

M. Nemirovsky, head of the radiological laboratories of the Spanish and Russian hospitals, and M. Tilmant, a member of the French Army Medical Corps attached to the United States Army, describe an aeroplane intended to carry aid to the wounded. The machine carries a pilot, a surgeon, and an radiologist (who should also be qualified as a surgical assistant), surgical material, dressings, and an x-ray installation. It is evident that the object of this formation is not to carry the wounded and to operate on them in an aeroplane, but rather to carry fairly complete surgical and radiological equipment and the necessary personnel either to an individual wounded man or to points where there is urgent need of reinforcement of the surgical staff.

The apparatus has the advantage of extreme speed and of not encumbering the radios or of being blocked by the



The Nemirovsky-Tilmant radio-chirurgical aeroplane; (1) surgical-assistant-radiologist; (2) electric generator; (3) pilot; (4) surgeon; (5) surgical instruments; (6) sterilized dressings; (7) x-ray apparatus.

congestion of traffic. The instrumental equipment has been especially designed with a view to lightness and compactness, and, as shown in the illustrations, it is highly compendious.

The electro-generator of the aeroplane itself furnishes the current for lighting and for the x-rays. It needs to be supplemented by a small transformer and interrupter. The same current can be used for heating the electric sterilizers.

Antituberculosis Organization in the Provinces. E. R. Coni. Semana Med., Buenos Aires, 1918, XXV, No. 17.

The example of Buenos Aires, where an energetic antituberculosis campaign has been organized, was imitated only by the city of Rosario, where an association for combating tuberculosis was put on foot. In the other provinces, nothing or very little has been done. The principal means of combating tuberculosis is the dispensary, which forms a center of action, investigation, and prophylaxis. Such dispensaries should be established in all the capitals and chief cities of the provinces, and should be controlled by the provincial and municipal medical officers. At the same time tuberculosis hospitals should be established, and the general hospitals should be entirely freed from tuberculous patients. Later, the provinces should also be able to establish sanatoriums for the cure of tuberculosis, either in the mountains or on the seacoast. The author mentions sanatorium statistics of the Prudential Insurance Company of America. From 1909 to 1913, 6,767 patients received sanatorium treatment, and of these 43 percent were cured, while 30 percent were greatly improved.

The Neurological Center of the Territorial Army at Genoa, Quaderni di psichiat., Genoa, 1918, V, No. 7.

This military neurological center consists of two distinct hospitals, the Missionari and the Spinola Hospital. The former is devoted to simple functional psychoneurotic troubles. It has an isolation ward for excited cases and for patients needing close observation, and a ward for quiet psychoneurotics, a division for patients with organic lesions not due to military service (myelitis, lues), and an officers' division. The rooms are small, holding only two or three beds in order to facilitate eventual isolation and to obviate contagion in the hysterical forms as much as possible. The functional hysterical cases (aphonia, stuttering, abasia, paralysis, etc.) are subjected to a new and special treatment. After a short period of isolation, during which suggestion is used, the patient is brought into a state of excitement, and a strong electric current is applied, while at the same time suggestion and oral persuasion act on the mind of the subject. This method has been successful in the most inveterate cases.

The Spinola Hospital receives only patients with traumatic lesions of the nervous system. The therapeutic principles of the hospital are as follows: All psychogenic (hysterical) complications resulting from the organic lesion must at once be removed, such as tremors, contractures, false positions of the members, etc. Each patient must be studied closely and intensely. No patient is allowed to remain inactive.

The Psychopathic Hospital of the Laboratory of Social Hygiene, Bedford Hills, N. Y. Katharine Davis, E. E. Southard et al. Jour. Sociol. Med., Pittsburgh, Pa., 1918, XIX, No. 2.

This hospital was established through the efforts of Mr. Rockefeller, Jr. A tract of land adjoining the New York State Reformatory was purchased, and a building capable of accommodating fifty inmates and a staff of eleven persons was erected. The hospital receives every woman committed to the State Reformatory. Its purpose is the intensive study of criminal women who show an abnormal mentality, but who cannot be considered insane. The laboratory maintains three departments. The department of sociology makes a thorough investigation of the social history of each patient, including her heredity, environment, etc. The department of psychology chiefly applies mental tests. The department of psychiatry carries out the scientific study of psychopathic cases and experiments with the various methods of treatment.

NEW INSTRUMENTS AND EQUIPMENT

VINCENZ MUELLER, Technical Editor.
GEO. W. WALLERICH, Associate Editor.

Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast Avenue, Oak Park, Illinois.

Light-Proof Dark-Room Ventilators

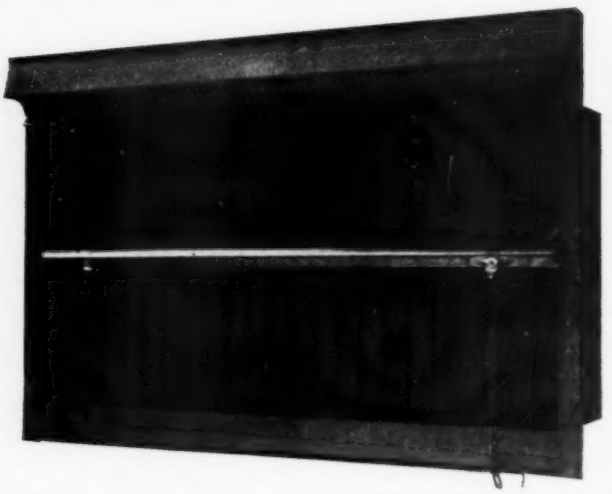
The lack of ventilation in the ordinary laboratory dark-room has long been a serious question. In the majority of instances the developing room or, as ordinarily called, dark-room, is simply a makeshift, an ordinary room with close-fitting door, windows securely fastened and painted black, and without ventilation, except such as is obtained by the infrequent opening of the door. As a result roentgenographers and their technicians have been forced to work under most insanitary as well as unsavory conditions, greatly impairing their efficiency. This condition has been due not so much to inattention as to the difficulty in obtaining proper ventilation and at the same time preventing the admission of light.

A comparatively recent invention, however, seems to have solved the question satisfactorily. The Freyberg Light-Proof Dark-Room Ventilators are designed to provide ventilation in Roentgen operating rooms, developing rooms, or other places where ventilation is desired with the positive exclusion of light. These ventilators were designed after long experiments and have proved very satisfactory for the purpose for which they are intended. They are made of sheet metal in the form of a rectangular box enclosing the series of vertically arranged planes set parallel to each other with air passages between. These planes are irregularly zigzagged at angles properly determined to nullify reflection, thereby completely excluding both direct and reflected light within the air passages and yet providing ventilation. Total absence of light with a ventilating area of 65 percent of the horizontal dimension by the full height of the ventilator is the result.

Plain light-proof dark-room ventilator

The ventilators are made in two styles, one plain, for use in interior partitions or where it is not necessary to control the amount of ventilation, and the other style which is the same as the plain, but fitted with a Pantasote spring roller shade in a separate frame attached to the ventilator for controlling the ventilation when installed in an opening communicating with the open air.

A very satisfactory arrangement is for the installation of the ventilator on the outside of the lower sash of a window. This permits the use of the upper sash for ordinary purposes and also makes possible the use of the lower sash to control the amount of ventilation desired.



Light-proof dark-room ventilator showing shade control partly closed

Another method is to install the ventilator in an existing window opening parallel to the upper sash. This will permit the ordinary use of the lower sash while the upper sash when pulled down makes the ventilation effective.

Owing to the fact that these ventilators must be constructed to meet individual requirements they are made to order only. They are frequently installed in pairs, one in an interior passage partition and the other opposite an opening to the open air to promote air circulation.

The Hygienic Work of the Anti-tuberculosis Dispensaries

The function of tuberculosis dispensaries is not so much to treat tuberculous patients as to prevent the disease, especially among the young people and the children. Their chief work consists in education and propaganda, which will furnish the people defensive arms against a diseases which hospitals and sanatoriums try in vain to combat. This does not mean that the dispensaries should give up entirely the treatment of patients, for they are a valuable aid to the sanatoriums; but it is their supreme duty in the highest interest of the nation to prevent sound persons from falling prey to the disease. In the present state of therapeutics the successful struggle with tuberculosis depends chiefly on prophylaxis. Of great importance are domiciliary visits of the physicians and specially trained nurses who at regular intervals see the families of patients, study their needs, comfort them and teach them how to prevent the spread of the disease. Every dispensary should at certain periods put up posters in prominent places (schools, hospitals, churches, theaters) calling attention to its existence and its purpose. A small booklet containing information regarding the disease and advice how to prevent it should be handed to all visitors, says D. Ottolenghi, writing in *Igiene Moderna* of Genoa.

The MODERN HOSPITAL

Vol. XI December, 1918 No. 6

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MULFORD

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LABORATORIES

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The high percentage of deaths from infection by the *streptococcus hemolyticus* complicating pneumonia, warrants our calling attention to the importance of

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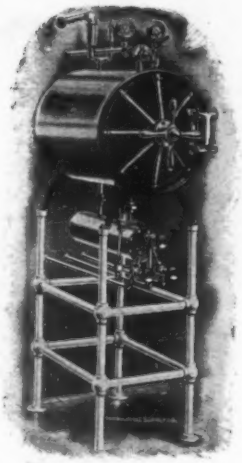

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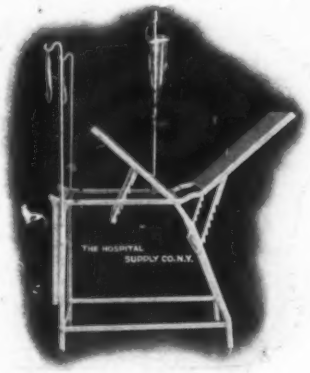

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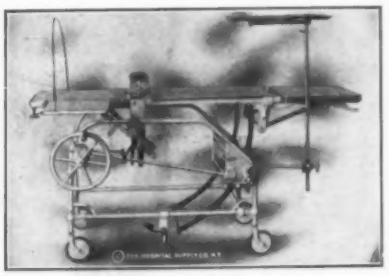

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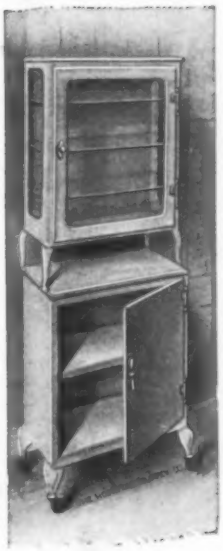

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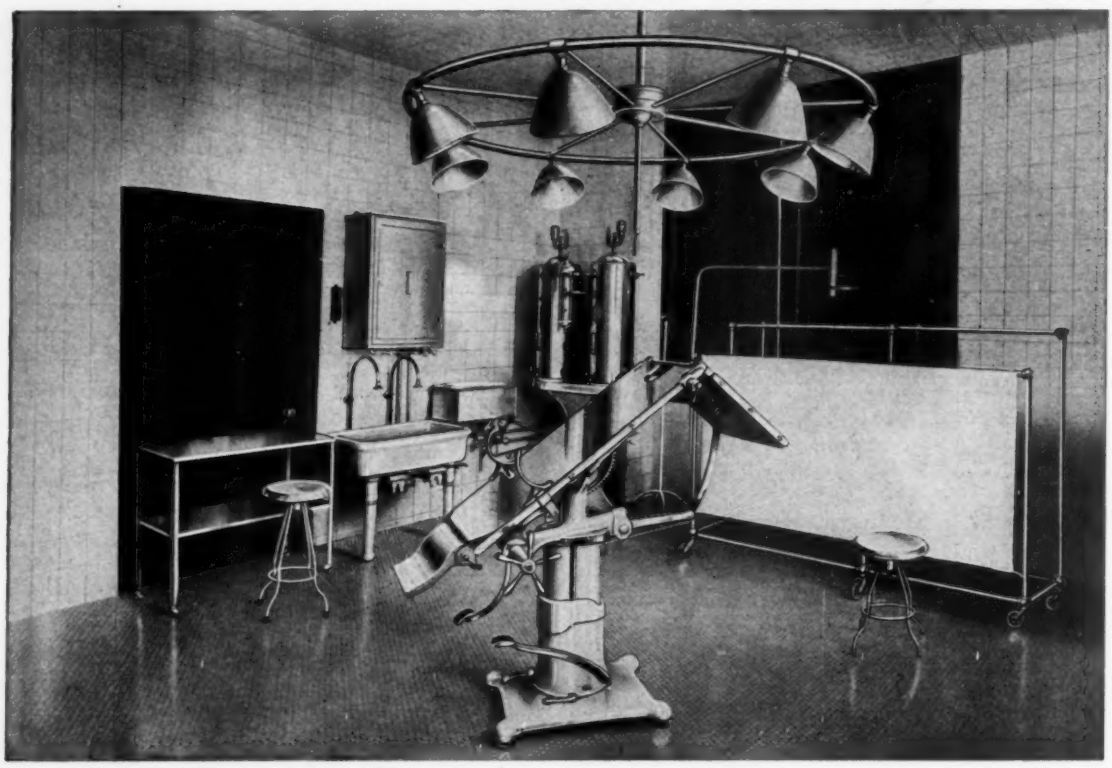
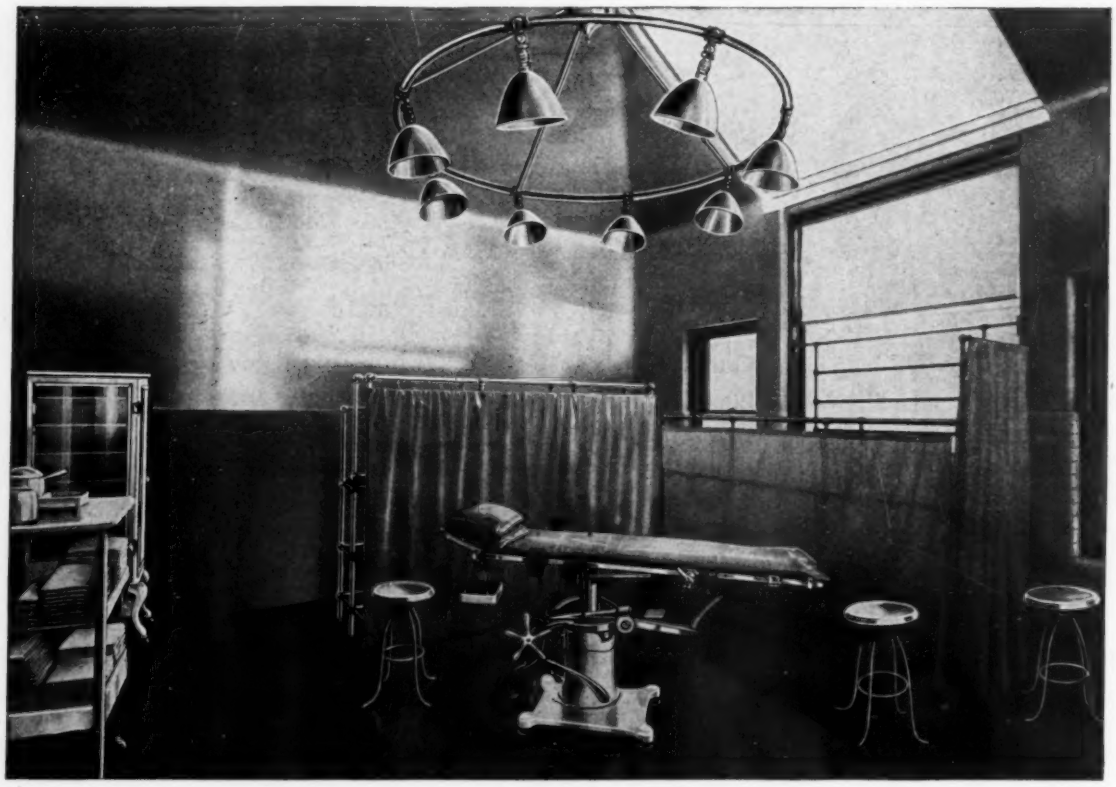


Operating Room, Post-Graduate Hospital, New York.



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Horlick's,
the Original
Malted Milk

Its Quality, high Nutritive Value, Digestibility, and Delicate Flavor combine to make it a strengthening food-drink for anemic and convalescing patients.

AVOID IMITATIONS
BY SPECIFYING *"Horlick's"*
Samples prepaid upon request

Horlick's Malted Milk Co.
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NATIONAL
High Pressure
STERILIZERS

A War-Time Necessity
In Every Hospital and Doctor's Office

Its large capacity, low cost, economy of operation and tested reliability commend it to the best surgical practice, from the private office to the largest hospitals

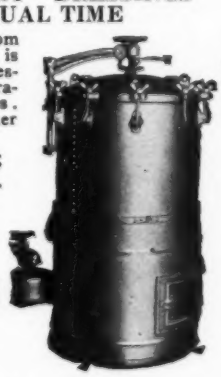
Saves time and increases the capacity and safety of the work of surgeons and attendants.

STERILIZED "BONE-DRY" DRESSINGS
IN HALF THE USUAL TIME

are immediately available, fresh from the sterilizer, where the National is used. Operates by steam under pressure of 1 to 30 pounds, at temperatures from 112 to 260 degrees. Equipped with gas or gasoline burner or steam coil as required.

Three Sizes: Doctor's, $60; Medium, $85; Hospital, $145.

Nearly all good supply houses have the National. Write for full information and the name of your nearest dealer.



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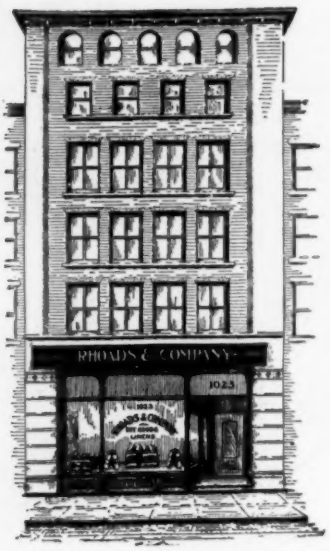
Grape Juice

DR. T. B. WELCH began to make Welch's Grape Juice in 1869. Next year is our fiftieth anniversary.

It is interesting to know that Welch's was widely prescribed by physicians and used in hospitals long before it became the popular "National Drink." For this reason, Welch's has always been made with an unusual sense of responsibility. Only the very highest quality is acceptable.

To us, it is gratifying that this unvarying standard has earned for Welch's the universal confidence of the medical profession and hospital authorities, throughout the country.

The Welch Grape Juice Company,
Westfield, N.Y.



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Blanket weather is here, and we have the

FAMOUS BORDERLESS HOSPITAL BLANKETS

for immediate shipment, made without border to avoid uneven shrinking, and part wool to give warmth and service. Size 60 x 80 double.

CRINKLED DIMITY SPREADS

for immediate shipment in all the popular Hospital sizes: 62 x 90—72 x 90—80 x 90.

Write for samples and prices.

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Established 1891

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A Permanent, Economical Patch for Repairing Rubber Gloves

The E-Z Patch is applied so easily and quickly that its very simplicity will appeal to you—to say nothing of the many dollars it will save. A little sandpaper and a drop of gasoline are the only things required.

The moment the E-Z Patch is subjected to heat, it vulcanizes and becomes an integral part of the object. Repeated sterilization only makes the Patch hold better. There's no danger of infection.

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Send for a trial envelope containing 6 for 25c
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HYCLORITE

Concentrated, Sodium Hypochlorite

In Empyema

The use of Hyclorite in 1:000 dilution for irrigating empyema cases after lobar pneumonia is enabling surgeons to discharge their patients in much shorter time than with previous methods of treatment. Hyclorite acts promptly, yet without irritation.

Accepted by the Council on Pharm. and Chem. for inclusion in N. N. R.

Hyclorite is always ready for immediate use.

Just add water and apply.

Hyclorite is prepared to a definite hypochlorite strength and alkalinity.

Solutions made from Hyclorite keep much longer than ordinary Dakin's solutions.

There is no waste, testing, or waiting in making a Dakin's solution from Hyclorite.

Price, 32 oz., $1.25

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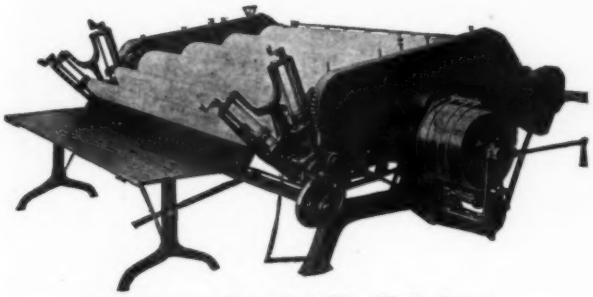

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A Reputation built on great Ironing Capacity

The American Four Roll Flat Work Ironer because of its great capacity will enable the hospital laundry to better cope with the conditions that war has brought about—conditions that will still be felt in after-war times.

The great amount of work this ironer can produce has won many friends for it. Besides it is very economical of operation. The steam consumption is unusually low and the saving in padding and covering is marked.

The American Four Roll Flat Work Ironer is thoroughly dependable. It requires little attention and is easily operated.

These qualities have won a place for it in many modern institutions. It is worthy of your careful investigation.

The American Laundry Machinery Co.

NEW YORK CINCINNATI
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THE cost of Stanley Surgeons' Gloves divided by the number of sterilizations equals ECONOMY—Because they are made of the finest selected Para Gum, and built to withstand the hardest usage.

"Stanley Standard" Surgeons' Gloves are made in light, medium, and heavy weights in all sizes from 6 to 9½—

"StanleyHopkins" Seamed Glove

The "Stanley Hopkins" seamed, hand made glove, also known as the Pure Gum, Seamed Gauntlet Glove, is supplied in medium and heavy weights —regular sizes 6, 7, 8, 9—extra sizes 10, 11, 12.

Prices will be gladly furnished on request.

STANLEY SUPPLY CO.
Supplies and Equipment for Medical and Surgical Institutions
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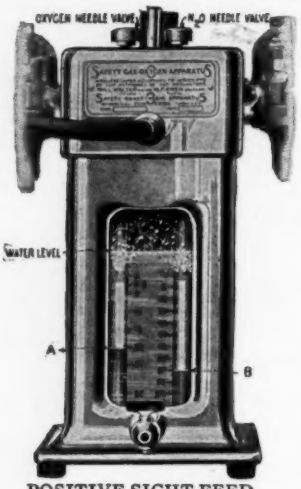

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Cut ½ actual size.
No hit or miss methods with the "Safety."

Because:

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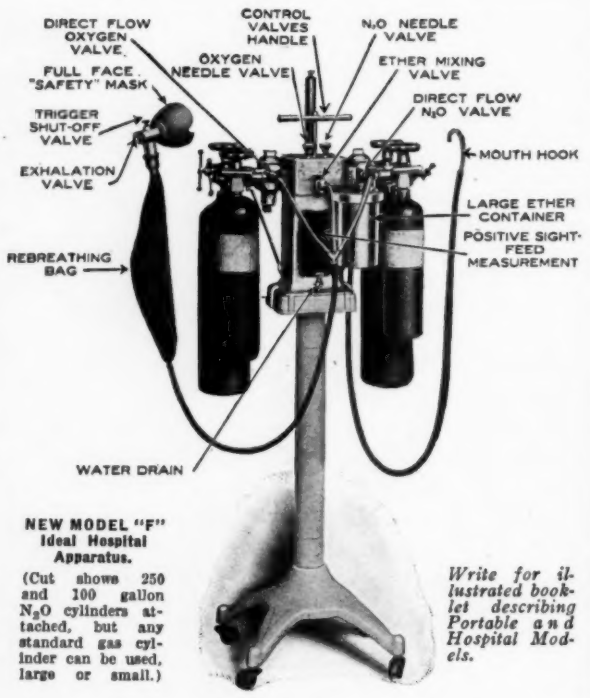
2. Once used, the **SURGEONS DEMAND** them constantly.
3. They are **ECONOMICAL** to operate, using from **40** to **60** Gals. **N_2O** per **HOUR.**
4. They **do not,** with ordinary care, **get out of order.**
5. They have proved **good revenue producers** wherever used. Both directly and indirectly.

YOU SEE

1. That each gas is flowing.
2. That your mixture is obtained.
3. That your mixture is accurately maintained as long as desired.

No spring gauges, meters or delicate mechanisms of any kind to get out of order. This is a simple water gauge that is always accurate and dependable.



NEW MODEL "F" Ideal Hospital Apparatus.

(Cut shows 250 and 100 gallon N_2O cylinders attached, but any standard gas cylinder can be used, large or small.)

Write for illustrated booklet describing Portable and Hospital Models.

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with a satisfactory past history of four years' extensive hospital service—a sheeting which has been so good as not to cause a single complaint—

wouldn't You demand that Rubber Sheeting for Your Institution? Could you afford to be without it?

Here is the opportunity to secure a sheeting with these excellent qualities. **Archer Process Sheetings,** with this wonderful record behind them, are the sheetings for Your Institution. For four complete years they have been extensively manufactured and distributed without one complaint or adjustment!

Archer Process Sheetings come in three different weights: **Royal Archer,** very heavy—**Vulcan,** extra heavy—**Trojan,** heavy.

Nearly all the good dealers have them in stock, or write us for full particulars and samples.

ARCHER RUBBER CO., Milford, Mass.

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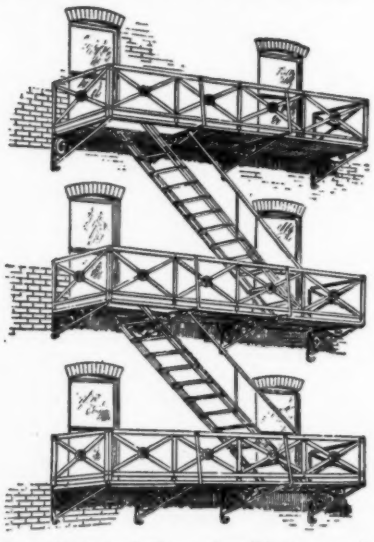
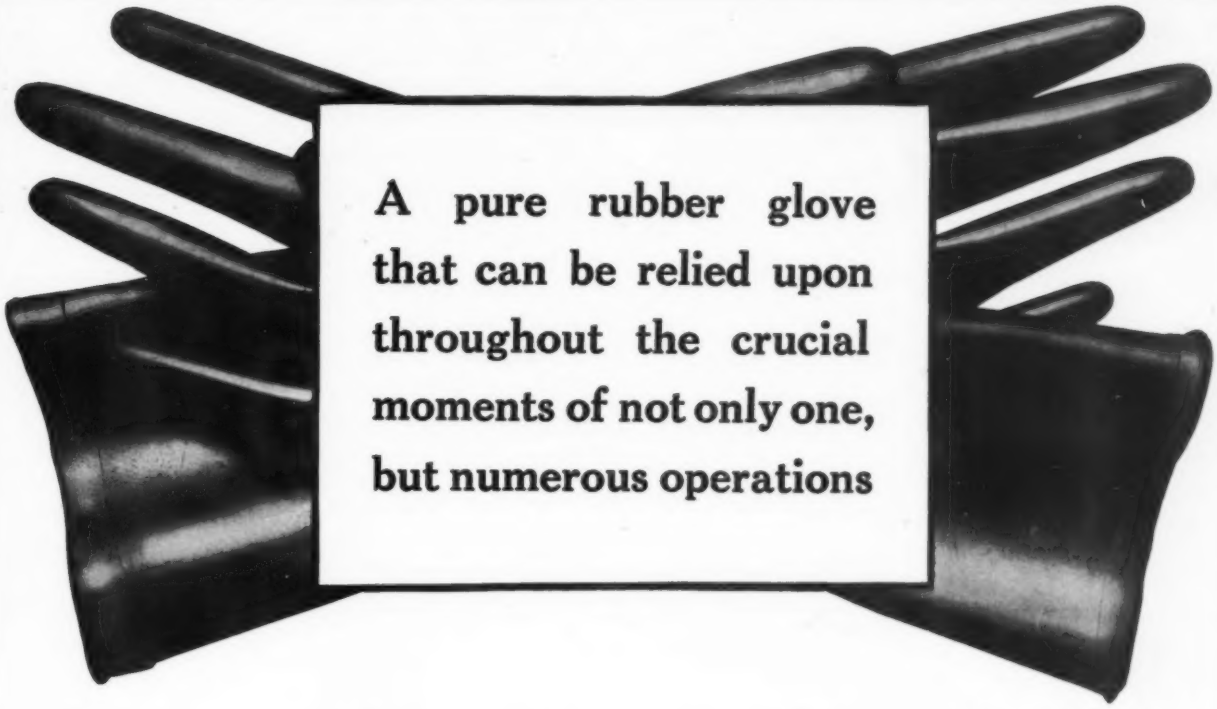


Every hospital building should be equipped with a fire escape, and most states have a law to this effect.

We are headquarters for fire escapes, having equipped some of the largest buildings in the country. All fire escapes are made strictly according to state specifications. Tell us what you want and allow us to quote.

THE FRED J. MEYERS MFG. CO.
HAMILTON, OHIO



A pure rubber glove that can be relied upon throughout the crucial moments of not only one, but numerous operations

Built to withstand strain and sterilization

There is no "secret process" in the manufacture of Reid Bros. Surgeons' Gloves. We simply employ well-paid, highly skilled workmen and use only the finest grade of pure new rubber. We guarantee them to be the best at any price, and should they ever fail to sustain this guarantee we will replace them without equivocation.

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Reid Bros.' Gloves are cured only by the live steam process, which insures a soft, velvety, sensitive finish—smooth and even all over.

Provision is made in every detail to prevent tension at the finger tips and binding where the fingers bend.

Thus the surgeon wearing Reid Bros.' Gloves enjoys the same freedom as with bare hands.

Strength for Repeated Sterilization

Reid Bros.' Surgeon's Gloves are made to withstand repeated sterilization.

We use only the finest grade of pure Para gum, refined to the highest degree. All impurities are removed by a long process of grinding and washing.

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Reid Bros.' Gloves have perfectly shaped palms, long tapering fingers and slender, snug-fitting wrists. Perfection in such important details is accomplished only by skillful workmen. Every man in our plant has the experience of five to fifteen years manufacturing nothing else but surgeons' gloves.

Our special TRIAL-BEFORE-PAYMENT offer enables you to return them at our expense within ten days should they prove unsatisfactory in any respect.

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Nothing broken. Nothing lost. Ready for instant service.

"AMERICAN" sterilizers and disinfectors are not to be distinguished by one or two good features, but by their many. From the smallest part to the complete apparatus, including packing and shipping, no detail of thoroughness is omitted.

The pre-war superior QUALITY of "AMERICAN," the result of our standards as manufacturers, is maintained with more determination now that the quality test is on.

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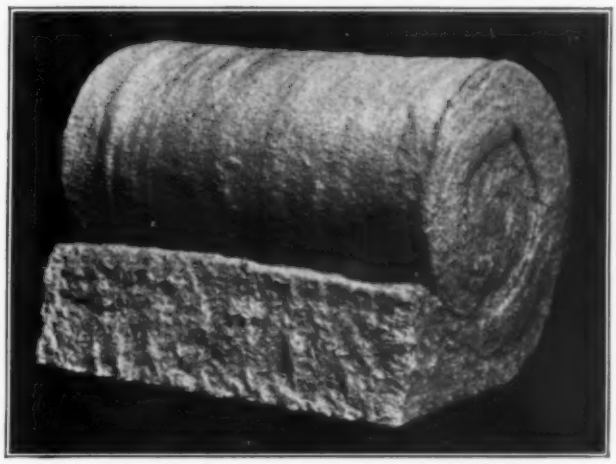
KIMBERLY-CLARK CO.

The Perfect Substitute for Absorbent Cotton



Roll of "Cellucotton" showing resiliency of the material.

AUTHORITATIVE REPORTS SHOW that the absorbing qualities of Cellucotton are equal to the best cotton.

CELLUCOTTON WILL ACCOMPLISH MORE than a similar quantity of absorbent cotton. Cellucotton is much lighter and the lateral absorption is greater. It absorbs five times faster, which means better drainage.

FURTHER THE CONSERVATION OF COTTON by using Cellucotton. Equal or better results are obtained in many cases by Cellucotton. The shortage of Cotton need not cause our Home Hospitals inconvenience when such a serviceable absorbent material as Cellucotton can be had.

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Buy for Continued Use—Not for Constant Replacing

Knitted Gauze can be re-used indefinitely, offering numerous advantages over woven gauze and a saving that is considerable. Conservation of woven gauze is imperative—Knitted Gauze is a solution that is likewise an improvement.

What Is Knitted Gauze?

Re-use Knitted Gauze surgical dressings are made from high-grade cotton, knitted in tubular form of various types, highly absorbent and soft in texture. They are applied in hospital and surgical work exactly the same as woven gauze.

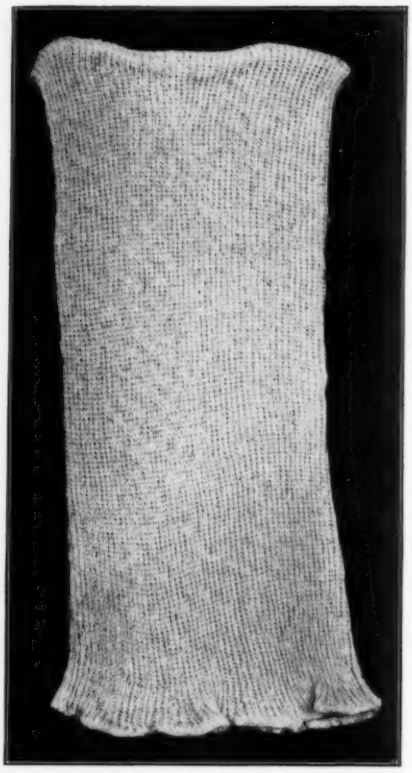

Fig. 2. Finished piece of knitted gauze before being folded into sponge.

The Economy Is Self Evident

The cost of surgical dressings in a hospital can be reduced to a surprising degree. Knitted gauze can be reclaimed; Washing and sterilization, simplified wonderfully, make surgical dressings of knitted gauze again available for use—as good as new.

Made in a Variety of Forms

Knitted of extra fine yarn, knitted gauze makes a superior packing. Sponges, dressing pads and compresses are available in various sizes, the gauge of the yarn being determined by the use intended. Head nets, masks, occlusion pads, and protective fabric for plaster-of-Paris work are among its many applications.

The Advantages Are Many

Putting aside all questions of economy, the use of Knitted Gauze has many advantages. There is a marked saving of time in their preparation and use. Special dressings are designed for special purposes—there is no time wasted in their making while the range of their general use and re-use is unlimited.

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Re-use Knitted Gauze is reclaimed by a process of washing, rinsing, and sterilization. A simple routine is suggested, similar to that used by army camps, and the results are entirely satisfactory. Full information will be gladly furnished.

Re-use Knitted Gauze is being satisfactorily used by the United States Army and numerous civil hospitals throughout the country.
Samples and full information will be gladly sent any hospital interested.

RE-USE KNITTED GAUZE CO.

Dr. J. F. BROWN, Pres.

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But Do You Use Them To The Extent You Should?

That's a fair question, because in lots of ways we all fail to take full advantage of things whose goodness and value we know.

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BROSIA MEALS are made of Peas or Beans, steam cooked, toasted, and ground into meal. They retain all the nutritive values of the beans or peas, with their rich protein content.

"It has been shown * * * that the legumes" (beans, peas, lentils) "when ground into flour and cooked in soup, or baked in cakes, are much more completely digested than when cooked whole." (U. S. Department of Agriculture, Farmer's Bulletin No. 121.)

They are richer even than beefsteak in tissue-building protein. They are real meat substitutes; foods for growth and repair; for the well, the ill, and the convalescent; for diabetics; for sufferers from gout or rheumatism.

As concentrated, thoroughly cooked food, one pound of Brosia Meal will go as far as two pounds of whole beans or peas, saving (a) the wastes of small quantity reduction, (b) the time and fuel for long cooking, and (c) the labor of preparation of the whole beans or peas.

Brosia Meals receipt book on request.

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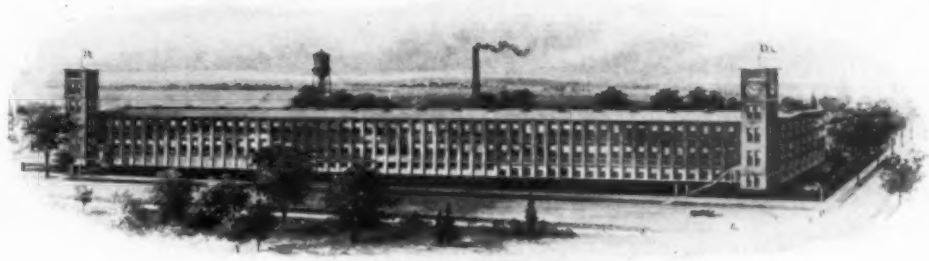

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All **B-D** Thermometers are permanently accurate and are selected for broad mercury columns; long, open scales; easy-shaking qualities, and other special features as enumerated in the respective descriptions given in our catalogue.

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for Tuberculosis Work

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Davol Rubber Company

Providence, R. I. Established 1874

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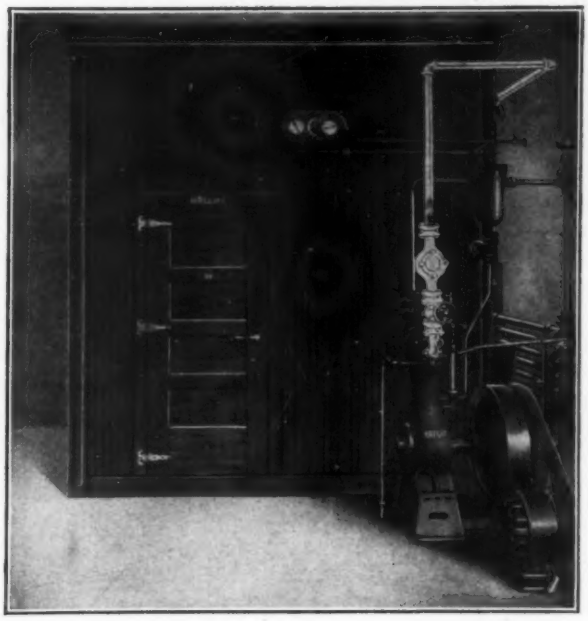

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Suited to *All* Hospitals

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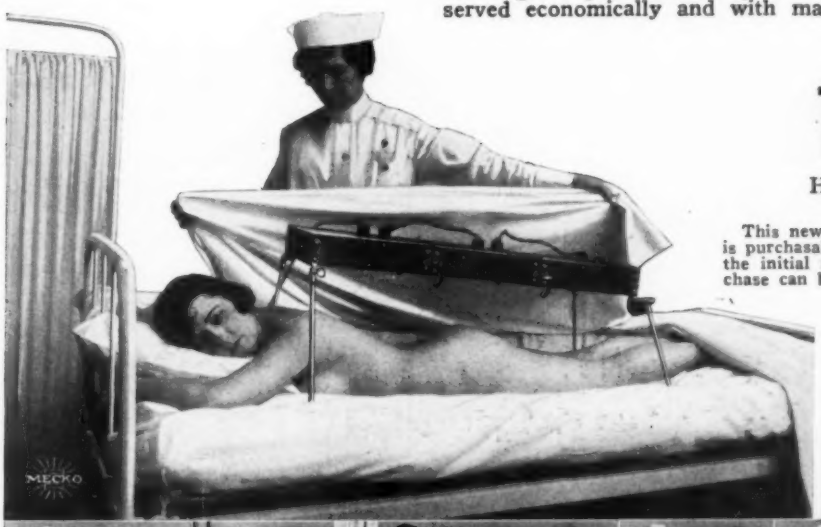

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Heat and Light Baker

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The Baker is simple; nurses can operate it with ease. It is adaptable to almost all the applications of radiant heat and light. It is well made, strong, durable and takes up little room.

Write for descriptive literature, prices and terms of our specially favorable offer to hospitals.

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Self Releasing Fire Exit Latches

Have Saved Hundreds of Lives in time of Emergency and Panic

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140 **Von Duprin** Latches are installed in this modern building—all entrance doors and all fire escape doors are safeguarded by a **Von Duprin** Latch.

The pantry doors leading to hallways are also equipped with **Von Duprin** Latches, the servers merely having to back up against the latch bar, drawing their wagonettes after them, the door check closing the door automatically. This is a big time saver and warrants careful consideration.

Personal service from 20 Branch Offices is at your command.
Our Catalogue No. 12-L will interest you. May we send you a copy?

VONNEGUT HARDWARE CO., Indianapolis, Ind.

Architect PAUL GERHARDT Chicago
General Contractors JOHN GRIFFITHS & SONS CO. Chicago

Preparing Perfect Surgical Gut

No. VIII—Sterilization

The sterilization of Hollister Catgut Ligatures is practically a continuous process from the moment of the animal's slaughter. Bacterial development in the material itself is inhibited always, while the process of Peroxide and Sulphur bleaching through which each individual strip of tissue passes before spinning results in its actual sterilization at this stage of manufacture; though here considered as merely contributing to the final aseptic result.

Preliminary sterilization was considered in detail in the preceding issue, which is briefly: subjection of the finished raw gut to a temperature of not less than 150°C on each of two successive days, and immediate immersion in an antiseptic hydrocarbon, which effectually protects the gut from moisture during subsequest operations.

Cut into the standard suture lengths of twenty and sixty inches, the catgut is now tubed in our patented solution (a highly purified Hydrocarbon of the Paraffin series) and immediately sealed.

Dehydration being absolute, the sealed sutures may now be subjected to a temperature in steam under pressure far in excess of any pressure generally accepted as insuring absolute sterilization—and this repeated on the second day as a margin of safety.

Hollister Ligatures may be obtained wherever Surgical Supplies are sold.

HOLLISTER-WILSON LABORATORIES

4444-46-48 South Ashland Avenue Chicago, U. S. A.

"TUBES OF DISTINCTION"

Reliability

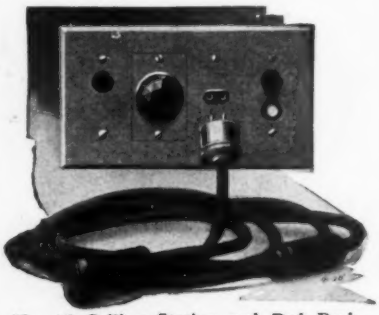
in a call system depends absolutely on the ability and skill of its manufacturer to build dependability into the component parts.

Bryant Silent Call System

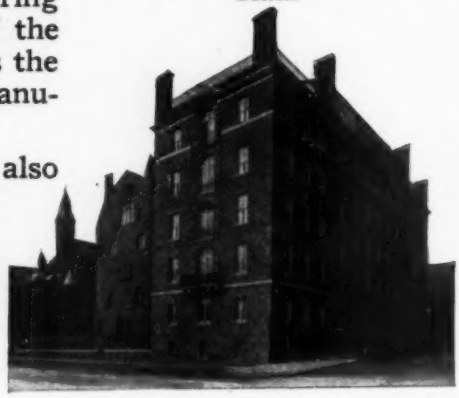
is made by the largest manufacturer of electrical wiring devices in the country. The component parts of the system benefit by the experience gained as well as the skill of experts necessarily engaged in such vast manufacturing enterprise.

That the Bryant Silent Call System is reliable is also proved by the large number of installations made in the few short years it has been on the market. Ask for our catalog giving full details and illustrating many old and new institutions in which the system has been installed.

THE BRYANT ELECTRIC COMPANY
BRIDGEPORT, CONN.
NEW YORK CHICAGO SAN FRANCISCO



No. 15 Calling Station and Bed Push Button.



Flower Hospital, New York, using 82 Stations of the Bryant Silent Call System.

¶If there ever was a time when real efficient machinery should be used, it is right now.

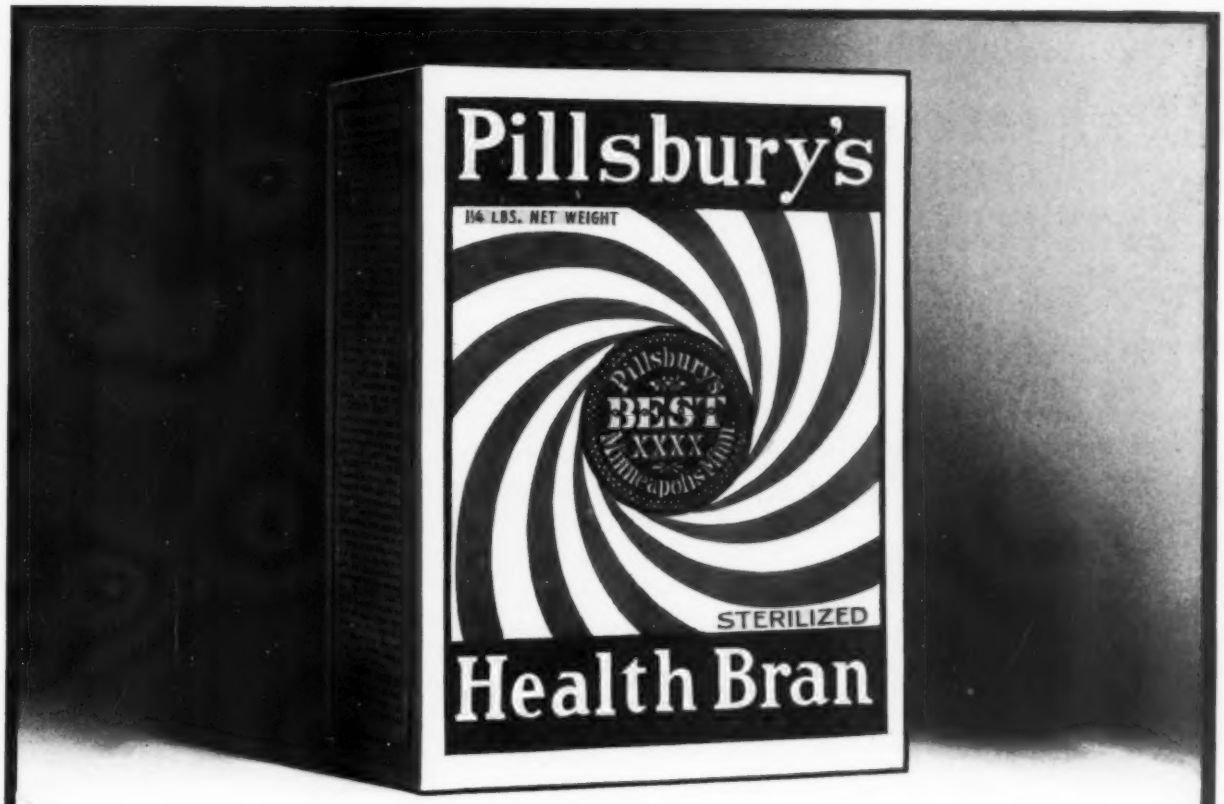
¶Install a READ THREE-SPEED mixer in your kitchen.

¶Saves time, labor and materials.

Ask today for catalog describing these mixers.

READ MACHINERY CO. York, Pa.

Kitchen Machines and Bakery Outfits



Delicious—Laxative

DELICIOUS, golden brown bran muffins, bread, cookies, etc., made according to the special recipes on the Pillsbury's Health Bran Package, instantly appeal to all hospital patients.

Pillsbury's Health Bran is milled especially for human consumption. Its large, clean, coarse flakes supply the mechanical stimulation to the digestive tract as well as the bulk necessary to promote normal intestinal action. Packed in sanitary, airtight cartons.

PILLSBURY FLOUR MILLS COMPANY
MINNEAPOLIS, MINN.

If Your Linens

Are from the "House of Baker Linens," you can be sure of economical and lasting service.

They are made particularly to withstand the service test of hospital wear and will return from repeated launderings as good as new.

Proof of their quality is the fact that many of the larger hospitals are equipped throughout with them.

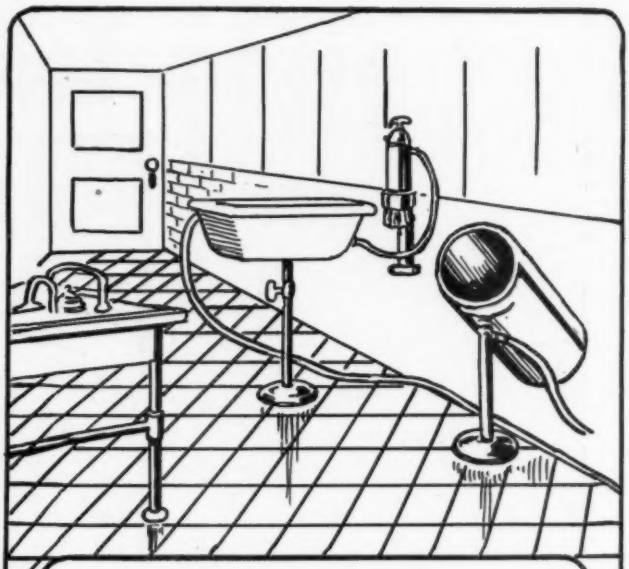
Before ordering new supplies, either to fill in or a complete new outfit, get our samples and prices.

H. W. Baker Linen Co.

41 Worth Street, New York City

752 So. Los Angeles Street
Los Angeles, Cal.

453 Washington Street
Boston, Mass.



LEONARD

Thermostatic Water Control for Hydro-Therapeutic Treatment

The Leonard Valve is recommended for the control of temperature on all Hydriatic fixtures requiring temperate water. Efficient results may be obtained in the treatment of arm or leg separately in the specially controlled receptacles especially constructed for that purpose, or with the use of the simplified control apparatus from which may be obtained predetermined temperature for the douche, needle spray or shower.

The Leonard Control is positive and is not affected by fluctuations of pressure or by exterior conditions. It provides a dependable safeguard against scalding or chilling. Widely used for this purpose in Soldiers' Homes, Hospitals, Asylums, etc.

We should be glad to inform interested hospital executives of the many uses and economies of Leonard Valves in Hospital Service; to send illustrated literature; and if also requested, the location of the installation of Leonard Thermostatic Valves nearest to the writer's address.

Writing Today Will Bring Information Quickly

Leonard-Rooke Company
Providence, R. I.

LEONARD VALVES for PERMANENT SAFETY

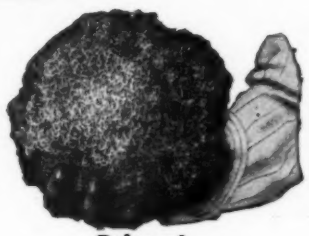
New York Office, 50 Union Square

CURLED HAIR

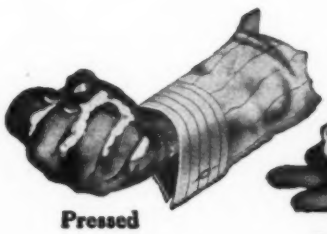
The Natural Mattress Filler

Pressed

Curled Hair



Released



Pressed

Cotton

Released

Kapok

Pressed Released

MEDICAL authorities agree that the hair mattress is the only mattress that possesses all the qualities necessary for the best health of the sleeper. Because of its porosity it can be easily fumigated or sterilized.

Curled Hair makes the most comfortable and durable mattress known. The millions of tiny spirals provide a firm yet yielding support. The accompanying illustrations show the great expanding qualities of Wilson's Curled Hair as compared with other mattress fillers.

WILSON'S "RESTGOOD"

SANITARY CURLED HAIR MATTRESS

Wilson & Co., the world's largest producers of curled hair, have perfected a process of curling, curing and sterilizing hair for mattress making and this curled hair is used in the "Restgood" Mattress.

It is always buoyant, resilient and restful; it cannot mat, harden or become lumpy.

With all these valuable advantages, the difference between a "Restgood" mattress and the best grades of Cotton-felt or Kapok mattresses is very pronounced.

Cotton or Kapok should be ruled out for hospital beds because they are difficult to clean, absorb body secretions and do not lend themselves well to fumigation or sterilization.

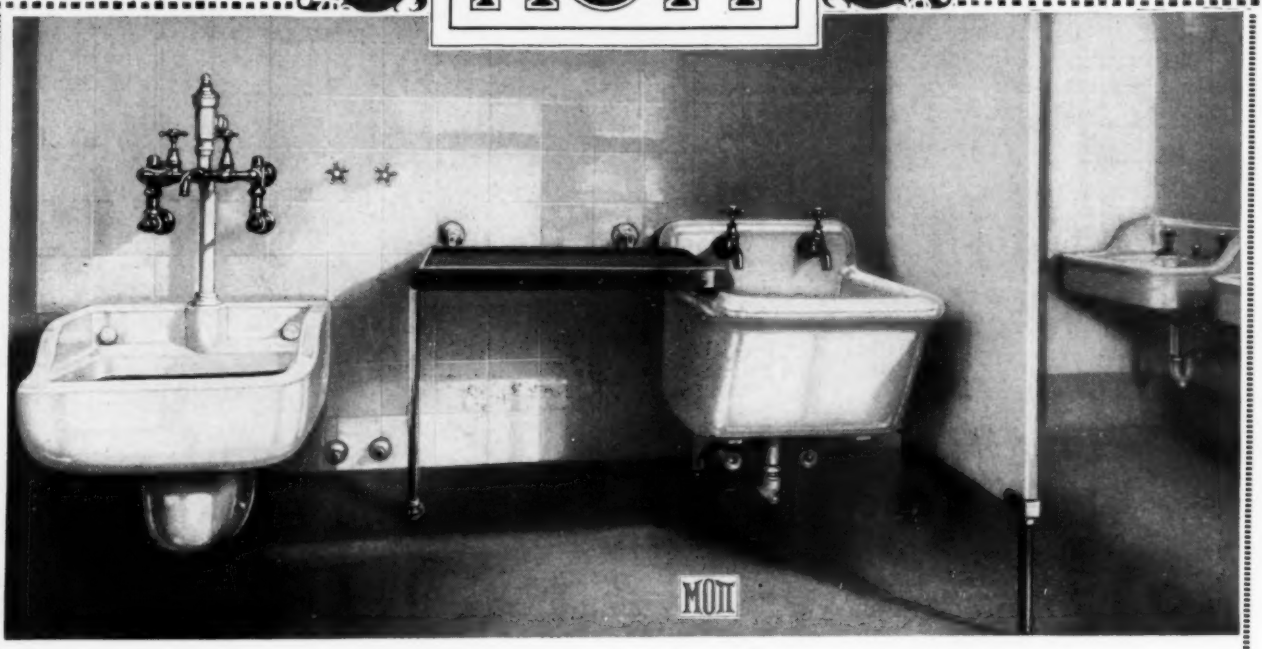
Hospital authorities are invited to write us for further facts regarding the Wilson "Restgood" Mattress.

"This mark WILSON & CO. your guarantee"

CHICAGO

Makers of the Famous Line of "Restgood" Army Rolls and Camp Equipment. Write for Interesting Booklet

1828 MOTT 1918



A Modern Hospital

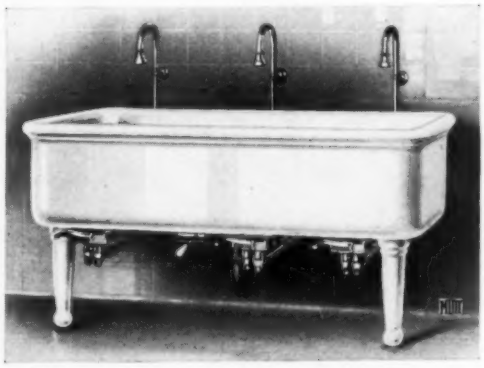
The Harlem hospital in New York is equipped throughout with Mott Plumbing Fixtures of the wall suspended type.

The nurses' service room here shown is a good example of this type of fixture.

Mott sanitary appliances, hydrotherapeutic apparatus and hot water specialties with automatic control are being installed in military hospitals on both sides of the Atlantic.

Mott is serving the Government with every facility of a great plant in the production of sanitary equipment for hospitals, institutions, and sanatoriums.

A visit to our New York showroom will be found of value to those interested in this most essential industry.



A Mott surgeons' wash-up sink with knee action control for hot and cold water.

EVERYTHING WE SELL WE MAKE

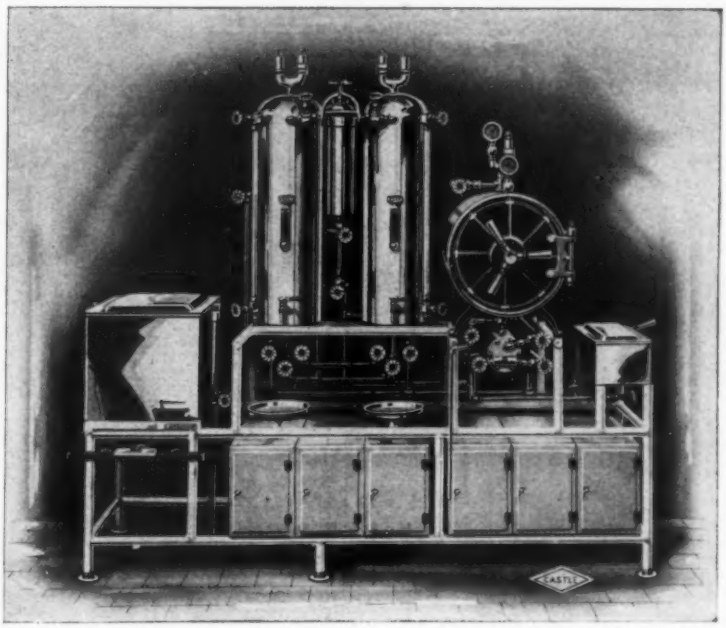
THE J. L. MOTT IRON WORKS

TRENTON, N. J.

NEW YORK, FIFTH AVENUE AND SEVENTEENTH STREET

Boston, Chicago, Philadelphia, Detroit, Washington, St. Louis, Denver, Atlanta, Seattle, Portland (Ore.), Indianapolis, Pittsburgh, Cleveland, Salt Lake City, Houston, and Des Moines. Mott Company of California, San Francisco and Los Angeles. Mott Company, Ltd., Montreal, Toronto, and Winnipeg, Canada.

The Economical Sterilizer



is the one which gives the greatest service per dollar of cost including upkeep.

Castle Sterilizers

meet that test. Uncle Sam uses them on land and sea—Surgeons, dentists and hospitals use them everywhere.

Not Cheap Sterilizers—
But Better Ones

WILMOT CASTLE COMPANY
Rochester, New York

Thirty-six of these interesting pages in the new Holtzer-Cabot Brochure on Hospital Signal Systems —every one full of valuable and interesting information.

It is the most complete and authoritative book ever compiled on Hospital Signal Systems. Told in language you can understand and profusely illustrated throughout. It's free.

Send for Your Copy Today

The Holtzer-Cabot ELECTRIC CO.
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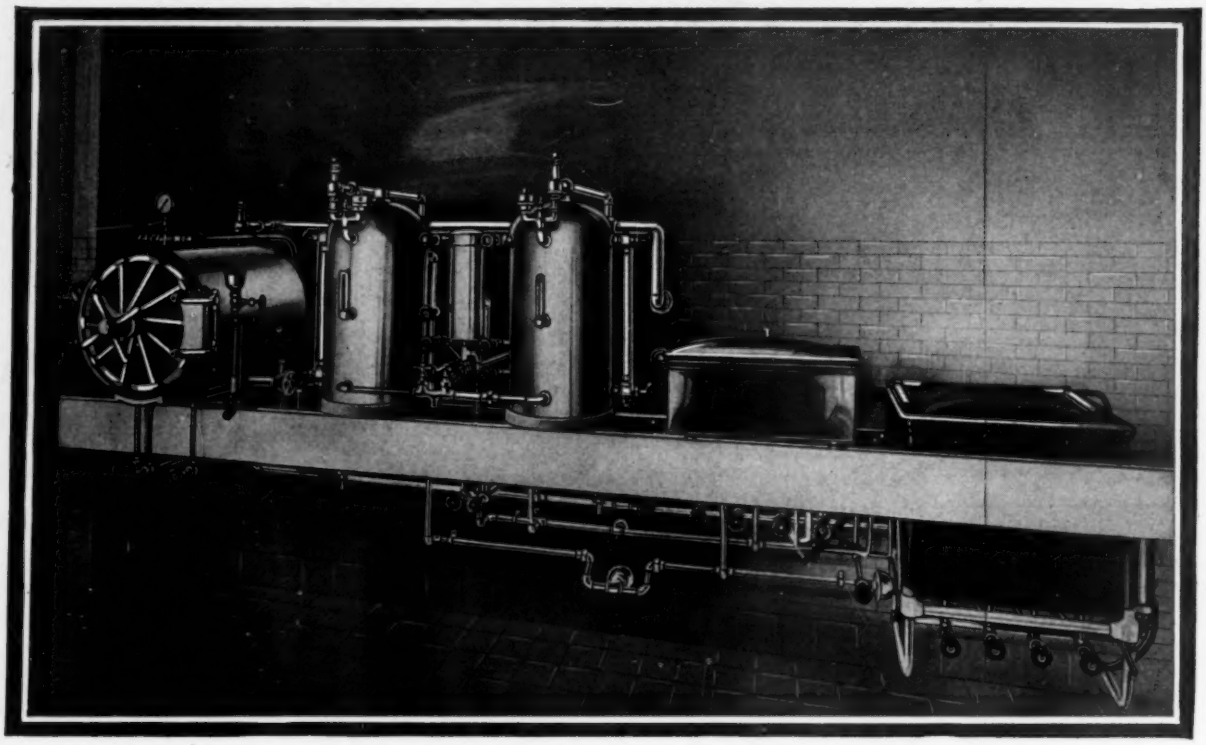


The New Bernstein Thought In Sterilizer Installation

Elimination of all Standards, Legs, and Pipe Connections to the Floor—An Absolutely Clear and Sanitary Floor Surface Assured—A Thorough Mopping—A Simple and Convenient Matter.

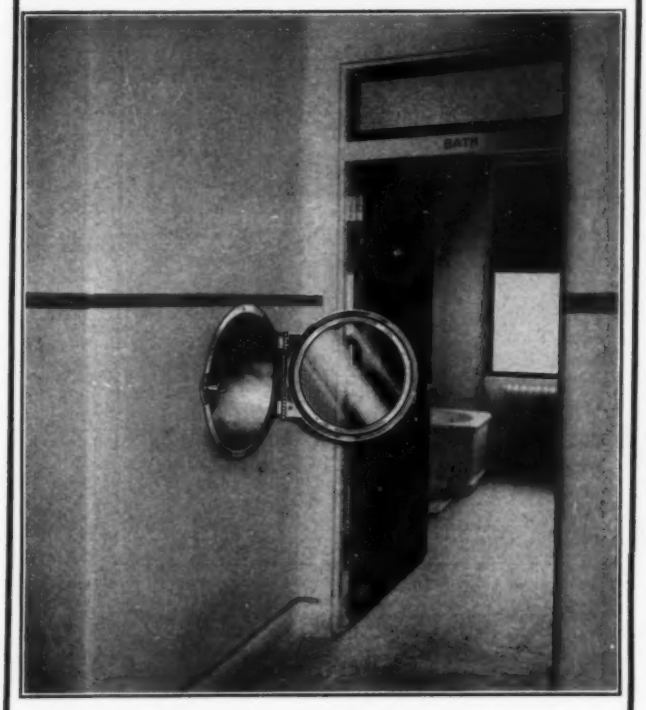
The illustration shows a part of THE BERNSTEIN STERILIZER installation in the new Children's Hospital, Philadelphia, and German Hospital, Brooklyn. It incorporates a new BERNSTEIN THOUGHT in Sterilizer installation which will be of interest to everyone connected with the problems of Hospital equipment. By the use of Heavy Steel Girders spanning the distance between two walls, all supports and connections to the floor, as well as all pipe connections, are eliminated without sacrificing—indeed, increasing—the strength and rigidity of the installation. Knee Levers are provided on Utensil and Instrument Machines, with the consequent elimination of foot pedals and the addition of a convenience in operation.

The Bernstein Line of Pressure Sterilizers is complete. It is being continually improved. It is a Revelation of Sterilizer Efficiency to the increasing number of large users. Bernstein Sterilizer Service will prove an interesting subject of investigation to interested Hospital Executives.

HIGH-GRADE ASEPTIC HOSPITAL FURNITURE BEDS AND BEDDING STERILIZERS

Bernstein MANUFACTURING COMPANY

THIRD STREET AND ALLEGHENY AVENUE PHILADELPHIA, U. S. A.



The Best Investment

IF you will install the right kind of laundry chute, it will be one of THE BEST INVESTMENTS you can make in your new hospital. Those made of wood or metal or concrete are undesirable; they soon become filthy and "smelly," cannot be cleaned, and altogether are a nuisance that you will regret.

The only laundry chute we know about is one made of heavy cast metal sections, with glazed lining, with a door at each floor built like the porthole of a ship, with sewer connections at the bottom with goose-neck trap, with crown at the top with hot and cold water connections and with a ventilator on the roof.

The chute meeting these requirements was devised four or five years ago by several hospital people in conjunction with one of the best hospital architects, and is now being made by the Pfaudler Company, of Rochester, New York.

JOHN A. HORNSBY.

Reprinted from—
The Modern Hospital, issue of September, 1916. By Courtesy of the Publishers.

THE PFAUDLER COMPANY
ROCHESTER, N. Y.

New York, 110 West 40th St. *Chicago, 111 W. Madison St.*
Detroit, 1946 Penobscot Bldg. *St. Louis, 440 Pierce Bldg.*
San Francisco, 512 Sharon Bldg

THE QUESTION OF PRICE

Gosh—how this question has been growing of late. It's mighty important to all of us now.

Watching the "p's" and "q's" of price is one of the Jamison-Semple buying policies. Our customers receive the price benefits which naturally accrue from thorough knowledge of sources of supply and from quantity orders.

However, we do not become so harum-scarum in our buying that we sacrifice in the quality to save on price. When it's a question of quality we line up with quality every time.

We like to designate this part of our policy as "Prudent Buying Economy."

Maroon Rubber Sheeting
Certified Clinical Thermometers
Zinc Oxide Plasters
and all other
Hospital Surgical Supplies

It will be minutes well spent for you to send us your inquiries. You will find our quotations pleasing and promptly made.

JAMISON-SEMPLE COMPANY

OFFICERS
BERNARD A. JAMISON, President — OLIVER H. BARTINE, Vice-President

Hospital Surgical Supplies and Equipment

152 Lexington Avenue NEW YORK CITY

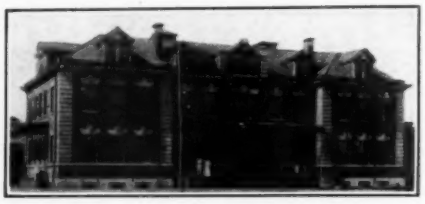
Could There Be A Better Sterilizer For Hospital Use Than This One?

Brown sheets and linen may be sterile, but are neither inviting to the patient, nor satisfactory to the Hospital. In the Raymond Sterilizer Washer the washing and sterilizing processes are combined in one—and in washing fabrics every pore of the cloth is permeated and every particle of foreign matter removed. As a result there are no brown spots on Raymond Sterilized Washed linens and bedding such as are so often seen on pieces which have been put through the "baking" sterilizing process before laundering, and the large doors admit cot pads and mattresses.

Raymond Sterilizer-Washer

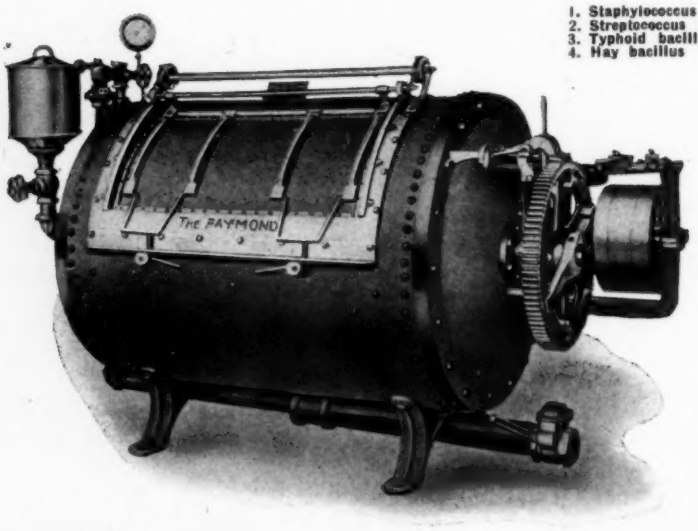
is unequalled as a sterilizer. The following brief extract from a report made to Surgeon General Gorgas by the Major in charge of the Base Hospital Laboratory at Camp Upton is conclusive. The tests were performed at the Kingston Avenue Hospital, Brooklyn, N. Y., April 6, 1918, in machines that have been in continuous use there for over seven years.

The Sterilizer was filled with soiled linen. Four small packages of gauze, each representing an organism culture, were placed among the soiled clothes and the steam turned on. The micro-organisms were:



Kingston, Ont., Hospital Laundry Bldg.
W. E. Austin, Architect.

1.	Staphylococcus aureus	24-hour broth culture
2.	Streptococcus pyrogenes	24-hour broth culture
3.	Typhoid bacillus	24-hour broth culture
4.	Hay bacillus	24-hour broth culture (sporulating)



The pressure was raised to 15 pounds (250 degrees F.), maintained for 5 minutes and then gradually let down to zero. The packages of gauze were removed and taken to a laboratory where pieces of the infected gauze were placed in a tube of broth and incubated for 48 hours. The cultures were taken out and examined and found to be sterile, **proving that the "Raymond" Sterilizer-Washer when operated at 15 pounds pressure is capable of killing ordinary pathogenic organisms and spore-forming bacteria in 5 minutes.**

We shall be glad to furnish this convincing report in full, together with other interesting data, to Hospitals.

THE RAYMOND MANUFACTURING COMPANY
SAUGATUCK, CONN.

THE WHITE COMPANY

Announces

A Double Reduction Gear Drive In Its Heavy Duty Trucks

Having all the flexibility and leverage of chain drive at its best. The superior leverage of a chain and sprocket, in applying power near the wheel rim by a rolling contact, is obtained in the Double Reduction axle by gears enclosed in the wheels and running in oil.

This is not an Internal Gear Drive with two axles. It is a *Centre Gear Drive* with power transmitted through gears on each end of a single axle. The entire load is borne by a compact housing. The axle shafts are carried in sleeves within the housing and are free to propel the truck without supporting any weight.

The twisting and jolting of uneven roads cannot cramp the driving mechanism. Wedging of gears is impossible.

THE DOUBLE REDUCTION PRINCIPLE

has been a large factor in the efficiency of White 1½—2-ton trucks, so widely used in both commercial and military service. It has long been an engineering problem to adapt it to shaft-driven, heavy-duty trucks. *This has now been accomplished without adding a single pound to the unsprung weight.*

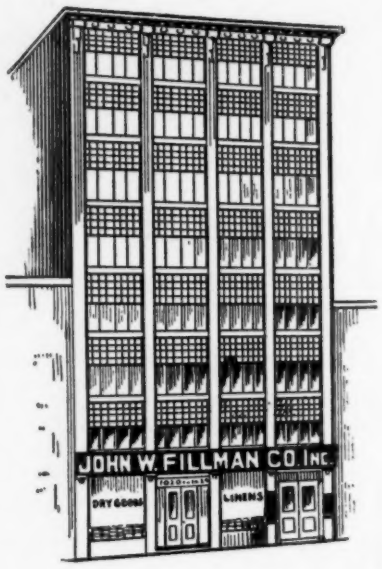
The chassis is clean cut. The rear axle housing is so compact it affords practically the road clearance of a straight axle. The tread is narrower. All parts are easily accessible. Moving parts are so simple and so rugged, dust protected and immersed in oil, that they are proof against rough usage. So frictionless is the whole driving system that the truck's coasting radius has been greatly extended.

White performance has been raised to a new level of efficiency. White operating cost has been lowered to a new level of economy, by a driving system which requires no adjusting whatever and will outwear the truck itself.

The new trucks have been in active service for several months. Deliveries will be made as soon as production in the factory overtakes urgent military needs.

THE WHITE COMPANY
CLEVELAND

THE MECCA OF HOSPITAL LINENS



The Original Wholesale Linen House dealing exclusively in Hospital and Institution Supplies.

Our goods possess durability that pleases the most exacting, being the result of our many years' experience in this special and exclusive line of business. This is universally conceded by more than two thousand hospitals and institutions in the United States that are now using our famous Hospital Linens.

If you are not a user of our supplies such as:

Table Linens and Napkins
Towels and Toweling
Turkish Toweling and Towels
Doctors' Operating Gowns
Hospital Night Shirts
Bureau Scarfs and Scarfing
Blankets of all kinds
Sheets and Pillow Cases
Bureau Scarfs and Scarfing
Bed Spreads—Crochet, Satin, Dimity
Ideal and Majestic Hospital Spreads our specialty
Rubber Sheets and Sheeting

Write for samples; you will be amazed at what we have to offer. Our Mail Order Service is carefully conducted and satisfaction in all purchases is absolutely guaranteed.

With sincere appreciation of your patronage.

JOHN W. FILLMAN CO., *Inc.*

1020-22-24 Filbert St. **PHILADELPHIA, PA.**

American-Made NOVOCAIN In the Service

(Procaine-Metz)

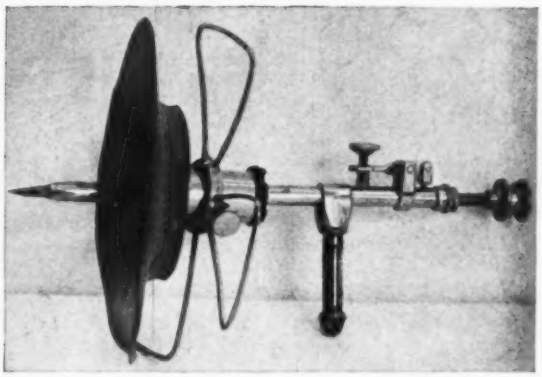
We have furnished the **U. S. Government** with practically the entire output of our factory including Novocain Powder, Novocain Tablets, and Novocain Suprarenin Tablets.

This fact has restricted our output to the profession, but our increased production now enables us to supply Novocain through the regular trade channels promptly.

Insist on N-S Tablets! No Harrison Narcotic Blank Required.

Send us the name of your dealer!

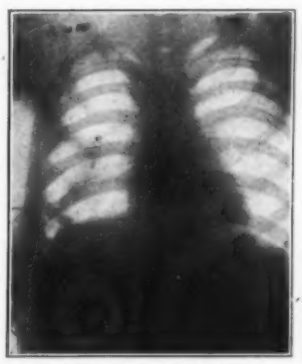
H. A. Metz Laboratories, Inc., 122 Hudson St., New York



Shows the cannula with the trochar tip projecting from the cannula orifice, the position for insertion. The rubber suction cup and the wire net are shown in position on the cannula.

Shows a patient in whom the cannula has been *in situ* for 5 days. Dressing clean and pus draining into the receptacle, with a negative pressure of 30 millimeters of mercury, throughout pleura tubing and bottle.

Before Treatment.



After 5th day of Treatment.

TREATING EMPYEMAS

with the

PHILIPS EMPYEMA APPARATUS

Designed by

HERMAN B. PHILIPS, M. C., U. S. ARMY

(See article in "Surgery, Gynecology and Obstetrics," February, 1917)

An Apparatus of Immediate Importance in the Present Crisis

DESCRIPTION

The Apparatus consists of an especially designed Cannula, used first as a trochar cannula, then as a non-obstructible cannula, which stays in the chest wall during the entire treatment. It is held air-tight to the chest wall by a special suction cup device. No operation is necessary other than its insertion through an intercostal space. A bottle, suction pump and negative pressure manometer, complete the apparatus.

RESULTS

It has accomplished a cure of Empyema in an average of less than 14 days, by (a) excluding atmospheric pressure; (b) excluding secondary infection (the first dressing is the only one) and (c) maintaining a continuous negative pressure in the pleural sac, which is measurable, keeping the lung expanded until the empyema sac is obliterated.

ADVANTAGES

1. Rapid cure—less than 10-day average.
2. Complete absence of respiratory embarrassment.
3. Economy of dressings and material.
4. Cleanliness and simplicity.
5. Avoidance of operation.

PRICE: APPARATUS COMPLETE WITH ALL ACCESSORIES $40.00

An illustrated pamphlet and information will be sent on request

SOLE MANUFACTURERS
(Licensed under Patent)

The Watters Laboratories

MANUFACTURERS OF SURGICAL AND HOSPITAL APPARATUS & EQUIPMENT

55 Fifth Avenue **New York**

Spread the Bread

with

Swift's Premium Oleomargarine can be used wherever butter is used for table or cooking purposes with equally satisfactory results
Oleomargarine
Swift's Premium

Sweet—Pure—Clean

Every pound carton of Swift's Premium Oleomargarine bears the seal of U. S. Government inspection. This assures you that only clean, choice materials are used and that every process is sanitary.

The result is a pure, healthful spread that should be served on your tables and used in cooking and baking.

It contains the elements of growth and nutrition that all children need.

There are few war-time savings so highly beneficial.

Begin Using Swift's Premium Oleomargarine Today

Swift & Company
U. S. A.

Keeping the Hospital Linen Departmentized

Remove the worry and annoyance of your hospital linen going to the wrong departments by installing an

Improved National Marking Machine

which places a neat, **INDELIBLE** and always permanent mark on all linen. Articles can be immediately identified—mistakes in marking and delivering are reduced to the absolute minimum.

The machine operates like a typewriter, which makes it possible to mark the name or initials of the owners (especially desirable for marking the staff's bundle or starched work); placing an identification mark for the private ward, lavatory, diet kitchen, operating room and any other information desired.

To get the best results, use **National Marking Inks** (both red and black), which are absolutely the best made for marking purposes. They penetrate the fabric without smearing or spreading and make a clean, clear-cut mark that is indelible and cannot possibly wash out. For your linens, patients' gowns and clothing, staff uniforms, institution equipment, etc.

The Rose
Label, Tape and Patch Sewing Machine

is the quickest and most efficient device for sewing a tape or patch (which has previously been printed with an identification mark) on articles that cannot take a mark direct. Especially suitable for blankets, quilts, bed and table linen.

"Better Marking in the Institution" tells the story fully.
Send for YOUR COPY TODAY.

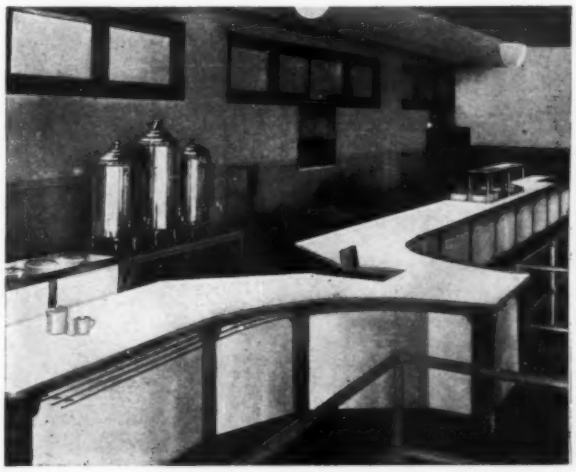
The National Marking Machine Co.
1062 Gilbert Ave. Cincinnati, Ohio

ALBERT PICK & COMPANY

Manufacturers, Importers, Jobbers
208-220 W. Randolph St.
Chicago, Illinois, U. S. A.

Equipment, Furnishings and
Supplies for Hospitals
and Public Institutions

CAFETERIAS FOR HOSPITALS AND INDUSTRIAL PLANTS. Every approved device that will contribute toward efficient cafeteria service is included in our comprehensive line. As America's largest manufacturers of cafeteria equipment we are in a position to serve you promptly and satisfactorily. We invite inquiries.

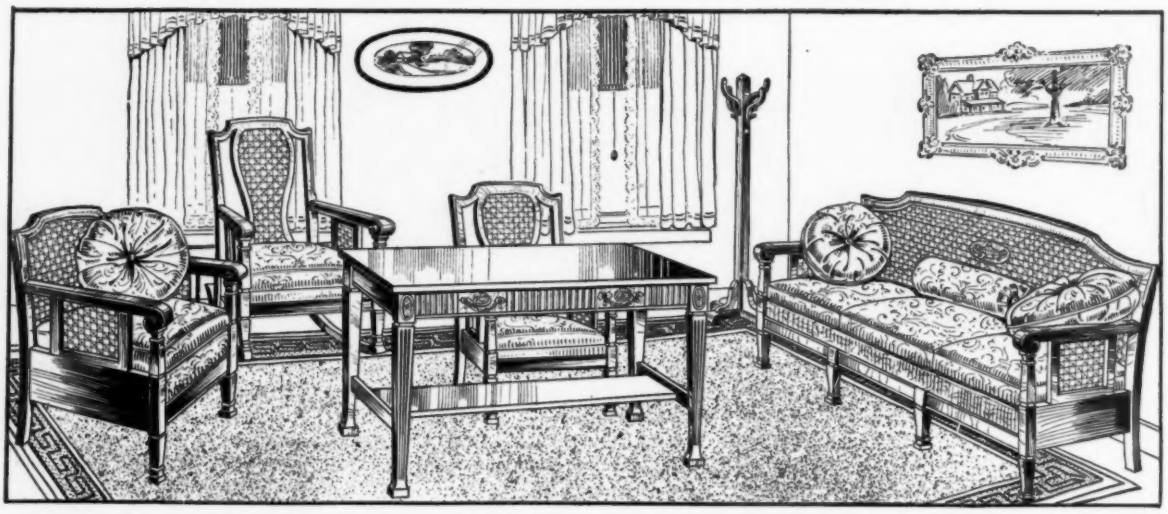


ALBERT PICK & COMPANY

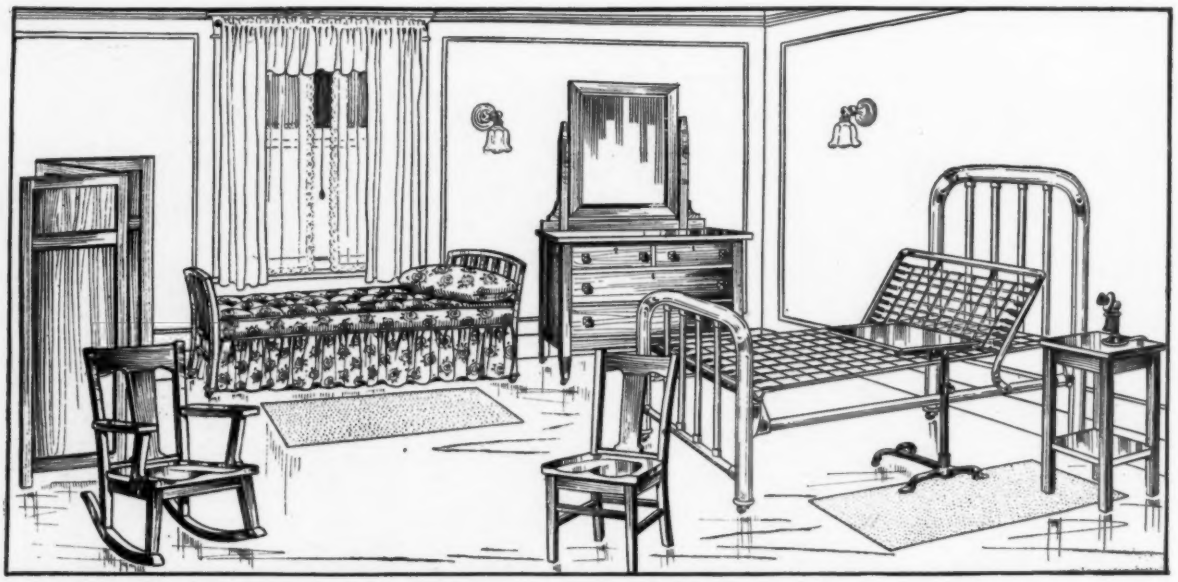
Manufacturers, Importers, Jobbers
208-220 W. Randolph St.
Chicago, Illinois, U. S. A.

Equipment, Furnishings and
Supplies for Hospitals
and Public Institutions

FURNITURE, RUGS, CURTAINS. We have grades suitable for every requirement. Our facilities are such as to enable us to handle promptly furnishing contracts of any size. Write us and we will submit figures covering your requirements.



Typical Hospital or Institution Reception Room, showing furniture, curtains and rug selected from our comprehensive lines. We can outfit your reception rooms in any style, from the severe "office" type to the most luxurious of parlor furniture.



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MATTRESSES AND PILLOWS. We have a large selection for you to choose from, including grades to meet every requirement. Tell us what you need and we will promptly submit necessary information and prices for your consideration.

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IN SURGICAL DRESSINGS

PARRESINED LACE MESH SURGICAL DRESSING

Non-Adherent *Non-Occlusive*

SAVES 1 TIME OF SURGEON
2 TIME OF NURSES
3 QUANTITY OF DRESSINGS

A non-sticking open-mesh gauze dressing impregnated with Parresine which prevents all over-dressings from adhering and insures free wound drainage. For use in surgical operations, incised, contused, or lacerated wounds, burns, ulcers and bruises.

60 complete dressings an hour, saving 75% of absorbent cotton, roller bandages, and cotton gauze, is the record produced by the Pennsylvania Hospital, Midvale Steel Company's Hospital, and South Bethlehem Steel Company's Hospital, using PARRESINED LACE-MESH Surgical Dressing in association with Dakin's DICHLORAMINE-T in CHLORCOSANE solution.

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This will cost you only 40 cents per hour including electricity and upkeep.

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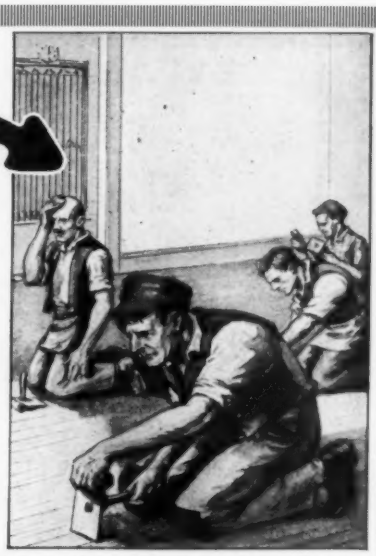
Have you any floors covered with so many coats of varnish, shellac, or paint that you really don't know what the wood underneath looks like?



These four men cost you about $3.65 per hour, and do the work not half so well.

And have you supposed that your only course with these floors was the unsanitary one of applying more coats or else hiring a high-priced floor finisher to put the floors into proper condition?

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Any ordinary laborer can take this machine and quickly clean off the old finish. Then, by changing the attachment, speedily sandpaper the floor into perfect shape for the new finish.

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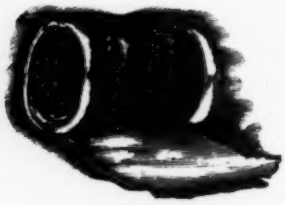
Also Manufacturers of Kent Stationary Kleaner and the Vacuna Portable Cleaner



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ABSORBENT COTTON
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Write for samples and prices

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UPON the selection and character of the equipment which goes into it will depend the satisfaction in results which comes out of it. You can make sure of a reliable, convenient and efficient cooking outfit by getting in touch with us. Our service is based on long practical experience and careful study of requirements, particularly of hospitals and institutions. Orders always on the books for hospital appliances.

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"BETTER THAN MARBLE"

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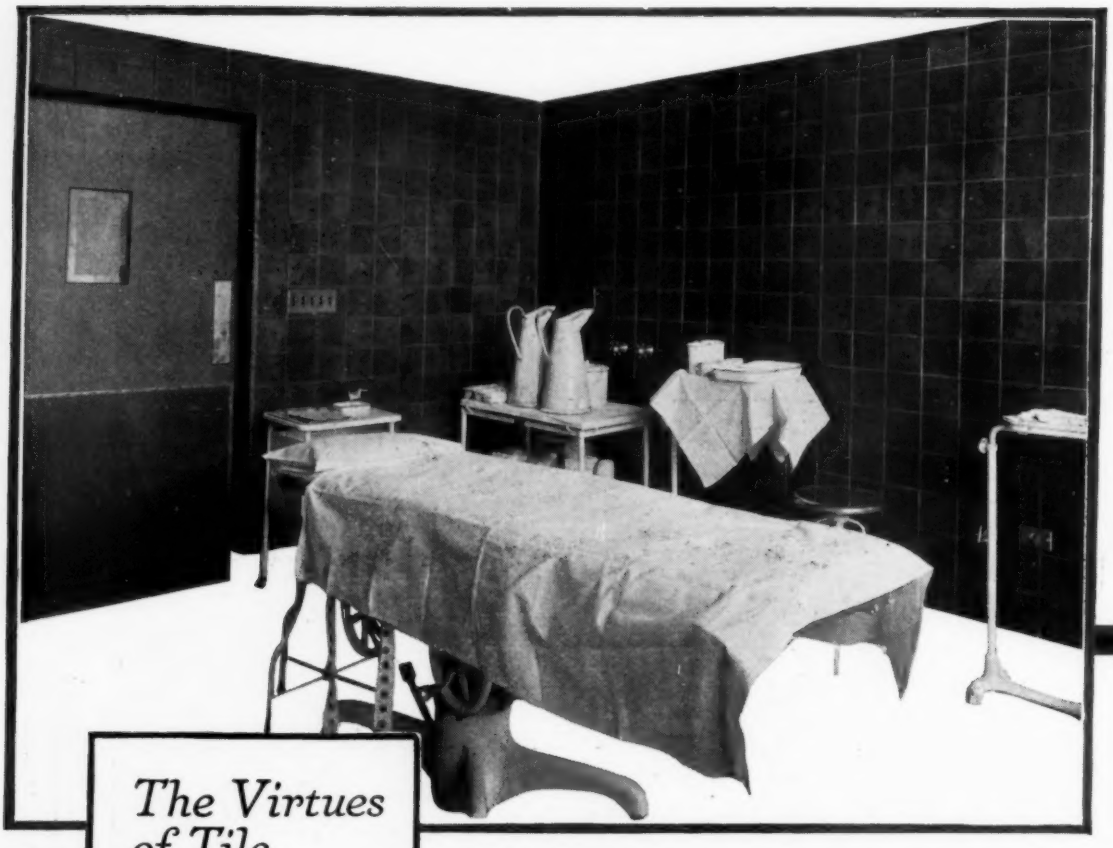

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We will submit Blue Prints of new equipment.

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In extreme emaciation, which is a characteristic symptom of conditions commonly known as

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it is difficult to give fat in sufficient amounts to satisfy the nutritive needs; therefore, it is necessary to meet this emergency by substituting some other energy-giving food element. Carbohydrates in the form of maltose and dextrins in the proportion that is found in

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The method of preparing the diet and suggestions for meeting individual conditions sent to physicians upon request.

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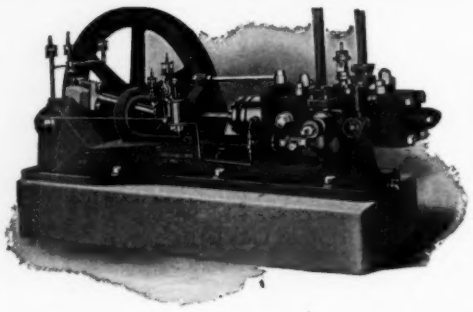

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Meets Every Hospital Requirement

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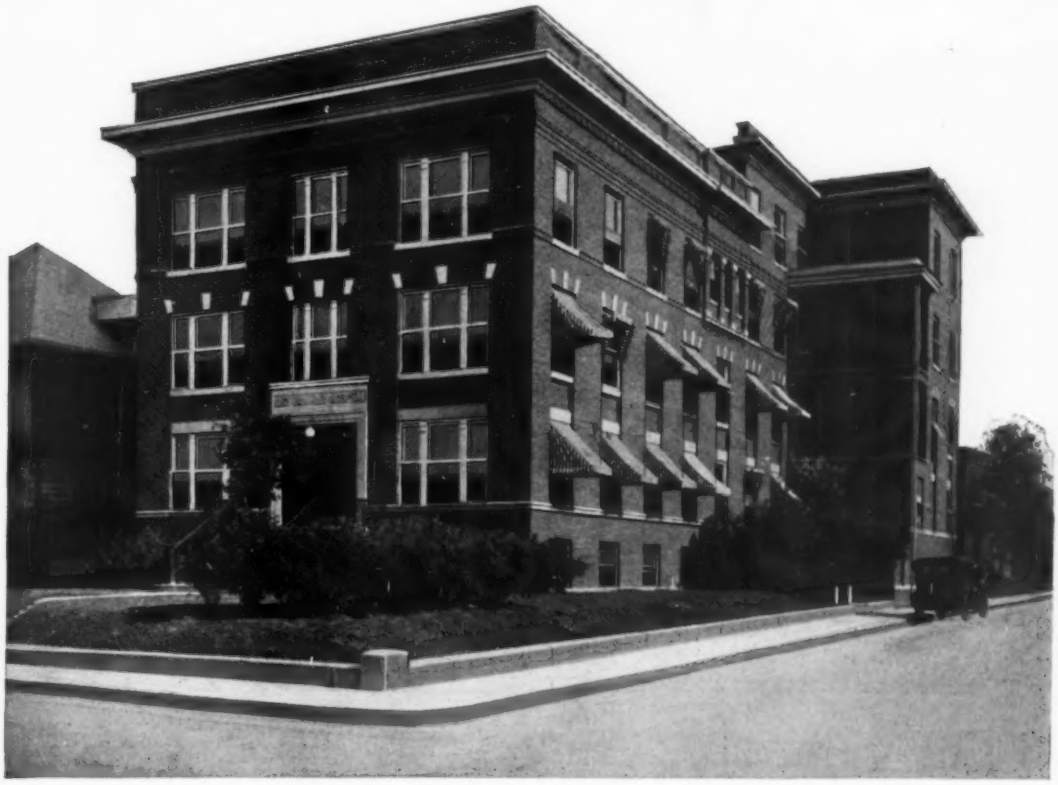

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· MEANS ABSOLUTE · MATTRESS PROTECTION

· PLUS RUBBER · SHEETING ECONOMY

THE name "MEINECKE" stamped on the edge of Maroon Rubber Sheeting is for *YOUR* protection as well as ours.

It protects you against *substitutes.*

There are probably from one dozen to twenty different kinds of Maroon Sheeting on the market—some good, some indifferent, and many of them bad.

But only a seasoned rubber expert could tell the difference by inspecting and feeling them.

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In buying the original which is branded with the name "MEINECKE" you are buying a standardized product that has stood the test for upwards of twenty years and has back of it the recommendations of hundreds of satisfied Hospital Superintendents, many of them controlling the largest institutions in the country.

It is no economy to save a few cents per yard on Rubber Sheeting, because Rubber Sheeting cannot be satisfactorily bought on a price basis.

Avoid Rubber Sheeting troubles; order direct from us; then you get the Original and not an Imitation.

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Stanolind
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Surgical Wax

A specially prepared, chemically pure, antiseptically-packed paraffin, for use in the hot wax treatment of burns.

Correct in melting point, in plasticity and ductility index.

Stanolind Surgical Wax is put up in quarter-pound cakes, individually wrapped in wax paper, carefully sealed, packed four cakes in a neat carton, and sold:

15c	per pound in	10 pound cases
14½c	per pound in	20 pound cases
14c	per pound in	40 pound cases
13c	per pound in	100 pound cases

Prices f. o. b. Chicago.

Reports from numerous authorities indicate that Stanolind Surgical Wax gives results equal to any of the compounds made and sold at high prices.

Stanolind Petrolatum

IN FIVE GRADES

"Superla White" is pure, pearly white, all pigmentation being removed by thorough and repeated filtering. Does not contain nor require white wax to maintain its color.

"Ivory White," not so white as Superla, but compares favorably with grades usually sold as white petrolatum.

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Standard Oil Company of Indiana guarantees the purity of Stanolind Petrolatum in all grades.

STANDARD OIL COMPANY
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Manufacturers of Medicinal Products from Petroleum

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For the past six months eighty-five percent of all CRESCENTS manufactured have gone into cantonments, base hospitals, barracks, army posts, and army and navy housing projects. Into this work the entire CRESCENT organization has gone with unflagging zeal—giving to it every atom of its ingenuity, its thought and its most careful regard for the great task in hand.

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IS "DOING ITS BIT" ABROAD

Our Wounded Boys Are Now Arriving Home

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Thousands upon thousands of our sick, gassed and wounded are coming home at last.

Nearly every medical man, at least, knows the part that Ovaltine played as a feeder in rebuilding these human wrecks to a point where they could be returned. The Base Hospitals of London and Paris, and those along the battle line, used literally tons upon tons of it with wonderful results, as their doctors will attest.

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Ovaltine is not to be confused with ordinary malted milk. Its constituents of malt, milk and eggs, flavored with cocoa, are in perfectly balanced nutritive ratio and its preparation is *in vacuo* at a low temperature so that the diastase of the malt and the vitaminic constituents of the other ingredients are not destroyed.

Try it. You will find it wonderfully efficient in any of your feeding problems.

Samples and literature mailed upon application.

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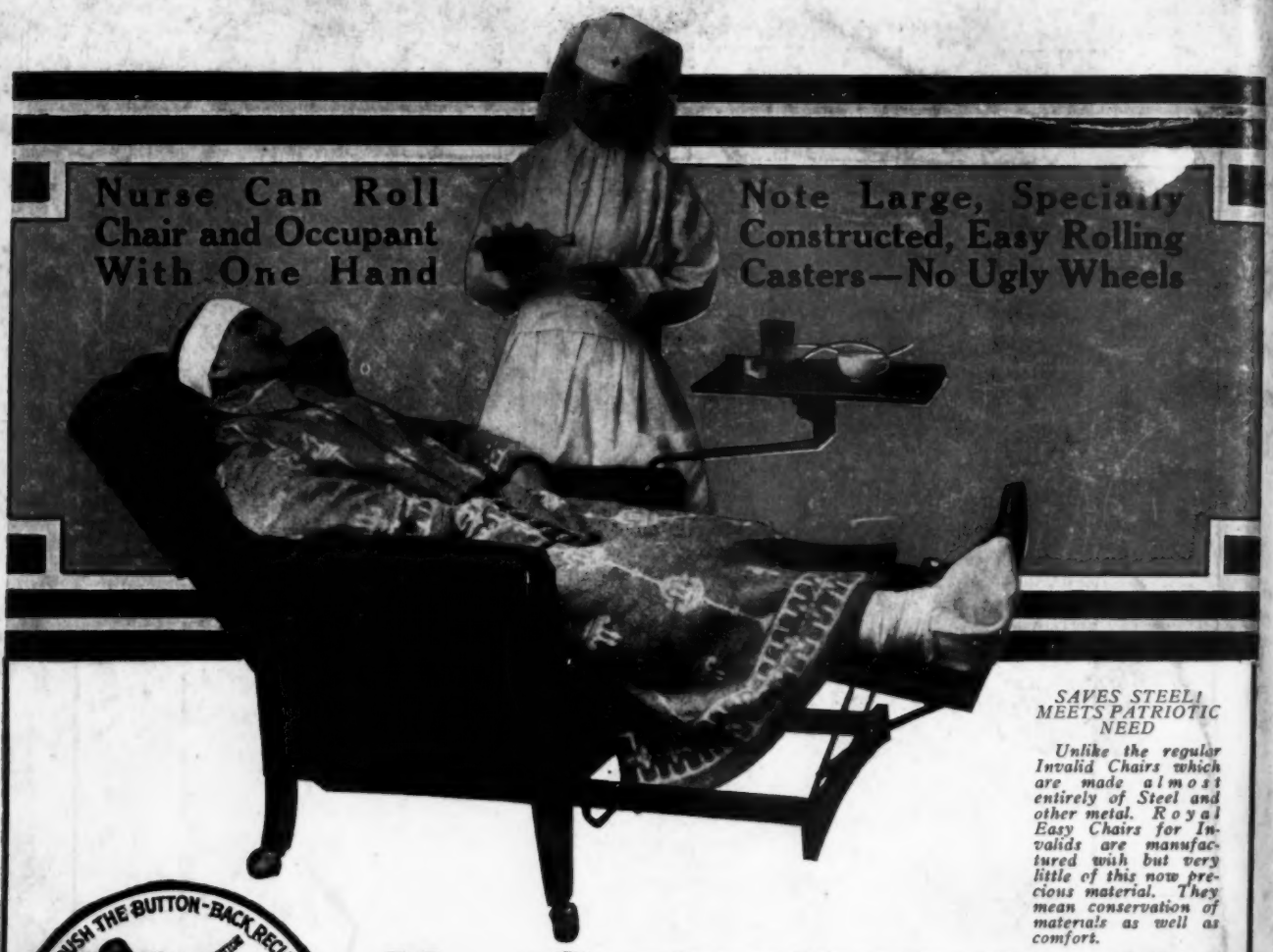

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3. **Extra large, 2½-inch, easy rolling casters,** which simplify removal of occupant from one room to another.
4. **Extra low construction,** receding seat, heavy sanitary upholstery, all making for maximum comfort.

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Shows various designs—gives reasonable prices

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Royal Easy Chairs

TRADE MARK "PUSH THE BUTTON - BACK RECLINES" REG. U.S. PAT. OFF.

Specially Designed for Invalids